Chemical Week

January 3, 1953

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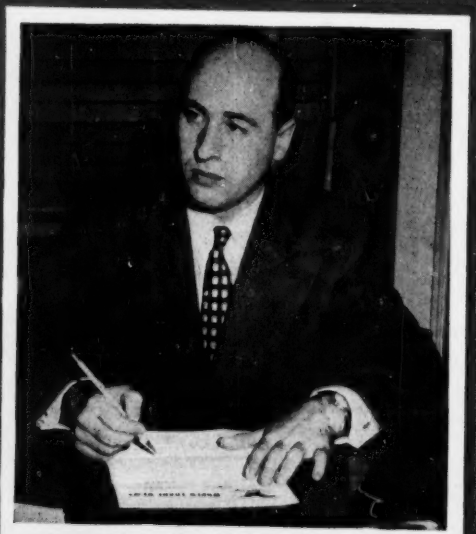

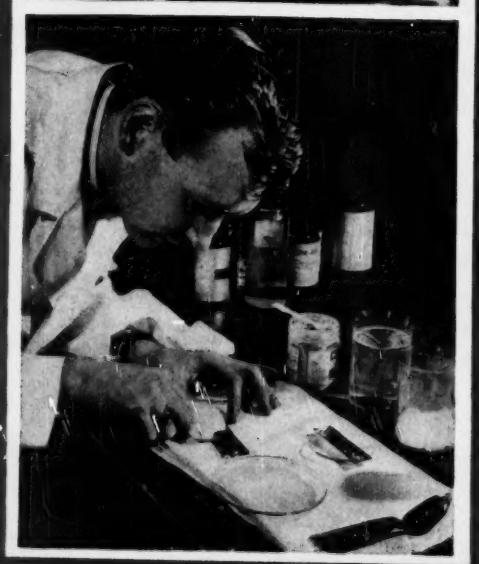

You lose if you delude yourself on your community status; ask the local people . . . . . p. 7

CW Report: Trade expert Sherwin blueprints the three ways to corral more export sales . . p. 16

'53's battle of the budget; here's how research directors are faring . . . . . p. 27

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Story behind the story: How this Digest screened silver cleaners; 12 got the Midas touch . . p. 48

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Chemical Week

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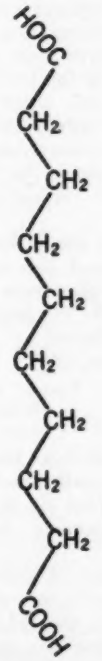

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OPINION . . . . . .

Fixing the Spaders

TO THE EDITOR: . . . Sometimes I think you're just plain irascible . . . because—and I can't help lapsing into a chemical term—you've precipitated a lot of controversy . . . on chlorophyll, soil conditioners, tariffs, hassle, spate and organic farming. . . .

But, irascibility aside . . . and also whether I agree with you or not . . . I couldn't help but feel that you might have been not exactly irritated by some of the remarks made by C. W. Crawford, Commissioner of Foods and Drugs before the National Food and Nutrition Institute at the Dec. 9 meeting. . . .

He didn't exonerate *all* members of the chemical industry . . . didn't suggest that they were *all* sinless . . . but he did fix the food faddists and organic gardening . . . spaders and hoers of hooey. . . .

GRANT L. ELLSWORTH
Washington, D. C.

A low, and far from irascible bow, to Reader Ellsworth, and to Commissioner Crawford for his let's-expose-quackery comments. Said he:

- "The lack of public knowledge [of the achievements of science and technology] in the fields of nutrition and agriculture has made a fertile field for . . . quackery which exploits the consumer's pocketbook . . . impairs his health by inducing him to rely on bizarre diets or nutritional nostrums for treatment of serious diseases."
- "Myths and folklore in regard to foods and diet are as old as mankind, but a vast new folklore . . . is being built by distorting the facts of real advances of nutrition science."
- "There is a widespread belief that the nutritive value of a plant is dependent upon the kind of soil on which it is grown . . . even that the nutritive value of meat . . . is dependent . . . on whether the feed the animal consumed was grown on the proper soil."
- "There is an element of truth in this thesis, but the only disease in man . . . associated with soil deficiencies is simple goiter. . . . One sees claims that foods gain almost magic properties through the practice of so-called organic farming. . . . More frequently . . . the assertion that we cannot depend upon ordinary foods as a source of essential nutrients . . . because [it] was grown on impoverished soil . . . that we must turn to the pitchman's vitamin and mineral preparations . . . to avoid malnutrition and all its dire consequences. . . ."
- "Anyone who has a headache, that tired feeling . . . is urged to believe he is suffering from a 'subclinical deficiency' . . . needs some concoction."
- ". . . The outstanding current examples . . . are the promotions of food-supplement products containing a multiplicity of vitamins and minerals, all combined with a base of plant extractives . . . alleged to be derived from plants grown on organically fertilized soils. . . . Two producers of these nutritional shotgun prescriptions are each claiming to have the largest compost pile in the U. S. . . ."
- "If the benefits promised for these and other . . . cure-alls could be fulfilled, we would indeed be a nation of stronger, wiser people, with inexhaustible supplies of physical and mental energy . . . and free from objectionable odor. . . ."—ED.

Real Edge: Taxes

TO THE EDITOR: This sound from the sidelines could be summarized in the suggestion that CW change its name to Chemical Corporation Week. If specific evidence for the aptness of this suggestion was lacking before, your story on co-operatives spells it out (Nov. 29).

On one page you grant the co-ops the same gross return on investment as the corporations; and on the next page state that "cooperatives are not as efficient as business." I find this . . . something of a paradox.

Further, your distinction between the two types of venture deserves a second look. The dictionary describes a business as a mercantile interest requiring ability in the keeping of accounts and management of finances. If co-ops fail to qualify under this definition, let's hope that CW's story will tip off those careless bankers who (according to CW) are lending millions to inefficient, unbusinesslike organizations. . . .

MACGREGOR WILSON
Hamburg, N. Y.

Reader Wilson's "something of a paradox" really is not one. For purposes of comparison, CW set up a chart for (1) a corporation (2) a co-op—and identical in every way (capital investment, etc.) except for tax treatment. This pointed up a retained profit advantage of $50,000 assuming equal efficiency—which, as we emphasized, would be closer to $250,000 if the co-op used a tax-free revolving fund.

With such a favorable tax structure, co-ops do not have to be as efficient as corporations, and would not have to be, even if their stocks sold on the open market.—ED.

Danger: Pseudo Scientists

TO THE EDITOR: Concerning the organic farming cult so well criticized by your editorial (Nov. 8) . . . your readers might be interested in some comments on "Organic Gardening" and its founder, J. I. Rodale . . . drawn from the book "In the Name of Science" published recently. . . .

"The soil is like a living organism, Rodale claims, only animal or vegetable fertilizers preserve its vitality. . . . The use of 'artificial' fertilizers and sprays has caused almost all the nation's health disorders, including cancer."

As a further indication of the cultist rather than scientific attitude of this group, the book points out that this same leader in the field of organic farming is one of the "raw food" fanatics who rail against the eating of cooked "dead foods." . . .

Your editorial says: "We might well take heed before these propagandists poison the public mind and undermine the future of a major segment of our industry." The rest of the book, "In the Name of Science," made it clear to me that not only the fertilizer industry but also the whole field of science is faced with quantities of propaganda from pseudo-scientific zealots and humbugs. . . .

While interesting . . . humorously written . . . the book scared me, as a scientist, because [it reveals] the large number of weird "scientific" theories on the loose. . . .

Velikovsky and his "Worlds in Collision"; Ron Hubbard and his "Dianetics"; Gayelord Hauser and his blackstrap molasses. . . .

Scientists should be familiar with and able to refute every one. And any scientist who thinks no one could still believe that the world is flat had better take a look into this book. . . .

JAMES B. WEAVER
Alton, Ill.

CW welcomes expressions of opinion from readers. The only requirements: that they be pertinent, as brief as possible.

Address all correspondence to: W. A. Jordan, Chemical Week, 330 W. 42nd St., New York 36, N.Y.

NEWSLETTER

What's ahead for the chemical process industries? That's the $2 billion question for company executives.

Now, after almost a year of study, the Department of Commerce has just published its answer, "Markets After the Defense Expansion."

It's optimistic for the chemical field, citing the industry's phenomenal growth rate averaging 10% a year since 1925, showing an increase for every year except 1930-32. Organic chemical expansion averaged 12%, inorganics, 6%.

In addition, producers of chemicals and allied products will spend an estimated $1.45 billion dollars on new production facilities during 1953, according to the Securities and Exchange Commission and the Department of Commerce. This is larger than for any year except 1952.

Of course, a change in the business climate could force some postponements, but the general watchword seems to be one of continued optimism.

But while there was a rosy hue to these government statements, two companies did not fare so well. The U. S. Circuit Court of Appeals in Philadelphia last week upheld an FDA ban on the use of polyoxyethylene softeners in standard types of bread.

Two companies—Atlas Powder and Glyco Products—make the materials. When the FDA banned the use at the time it set the controversial standards for bread, Atlas appealed the decision, saying that the criteria used to bar its products were not applied to other softeners.

Chlorophyll—another news-making additive—was in the headlines again. Producers have united in forming a Chlorophyll Industry Committee. Its task: to coordinate with federal authorities and others on the formulation and acceptance of precise standards for production and use of chlorophyll, promote and support laboratory research.

Future possibility: setting up a chlorophyll research foundation.

Plant expansion, too, is newsworthy. Allied Chemical & Dye's nitrogen division will spend more than $4 million dollars to expand its urea facilities at South Point, Ohio. It will double its synthesis capacity, install facilities to produce a pebbled urea fertilizer and cattle feed.

Celanese Corp. of America, was granted a fast write-off on 45% of a $14 million facility near Dumas, Tex., to produce acetic acid, acetone and methanol; and the F. S. Royster Guano Co., a 45% certificate of necessity for a $3 million phosphate fertilizer plant near Bartow, Fla.

Add Reichhold Chemicals, Inc., to the roster of formaldehyde producers. The firm is turning out 50 million pounds a year at its Seattle plant. The unit there doubles as a pilot plant, since a new process is being employed. Additional plants are planned for Detroit and in the South, where Reichhold now manufactures its own phenol. Henry Reichhold has also acquired a substantial interest in Watson-Park Co. (Ballardvale, Mass.), maker of formaldehyde and various textile chemicals.

You can expect to hear more about a combination insecticide-fungicide synthesized in the laboratories of a Midwestern firm which is planning to diversify into the pesticide field. It looks good in lab trials, but the company is keeping mum until more extensive evaluation tests by independent laboratories have been completed.

Ready to talk, on the other hand, is Ethyl Corp., whose researchers, in collaboration with Battelle Memorial Institute, have developed a new plant-growth regulator—alpha-cyano-beta (2,4-dichlorophenyl) acrylic acid, trade-named Ethyl 214. It is now being greenhouse-tested.

Connecticut Experiment Station's A. E. Dimond sees a trend: it's "chemotherapy" of plant diseases—treating a plant internally rather than by externally applied sprays and dusts.

Pioneered by the Station, the method is already used to control Dutch elm disease and various fungal attacks; and systemic insecticides have vaulted into commercial prominence (CW, May 17, '52). Dimond told the AAAS this week that the technique will find wider and wider use.

Research on chemotherapeutants will be speeded now that three modes of attack have been pinned down: some chemicals attack the fungus itself; others react with the toxins produced by the fungus, thus rendering them harmless; still others react on the plant itself, fortifying it.

Makers of protective coatings will glean useful data from a "prescription chart" compiled at Columbia University's chemical engineering department. It correlates the results of combining styrene and alkyd resins in various proportions. Heretofore, says Professor James M. Church, formulations were largely devised on a trail-and-error basis, but now a look at the chart will show the proper mixture for a given use.

The Food and Drug Administration's proposed probe of the chlorophyll industry is welcomed by at least one industry member. The National Chlorophyll and Chemical Co. (Lamar, Colo.) said last week that such an investigation would not only "vindicate all legitimate claims of the industry," but would also "take chlorophyll out of the realm of fantasy with the result that a more stable expansion of its legitimate uses could be carried on without all the fanfare of wild, extravagant publicity."

Federal Civil Defense Administration will be a $2-million customer for drug and medical supplies during the next six months. Scheduled purchases for stockpiling include 600,000 bottles of dextrose-sodium chloride solution and 600,000 bottles of dextrose solution.

What does your plant mean to the community? Du Pont just completed a study of 29 of its 71 plants, examining thousands of vouchers to determine how much money (exclusive of payrolls) was spent locally.

Home-area buying in 1951 amounted to $123 million, and the money went to about 10,000 different firms. Payrolls in the same plants amounted to $210 million, and thus local purchases by the company averaged almost 60% of local wage and salary payments.

Christmas spirit was rampant among employees of Ashland Oil a Refining Co. (Ashland, Ky.). They decorated the 238-foot-high catalytic cracking tower at the refinery with thousands of lights, turning it into a gigantic Christmas tree—"bigger and taller," says a local report, "than New York's famous Times Square tree."

. . . The Editors

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You also have a choice of sizes and shapes. Norton spheres are available in diameters of 3/16" to 1". Other Norton catalyst supports, in ring and pellet form, available in diameters of 1/8" to 2".

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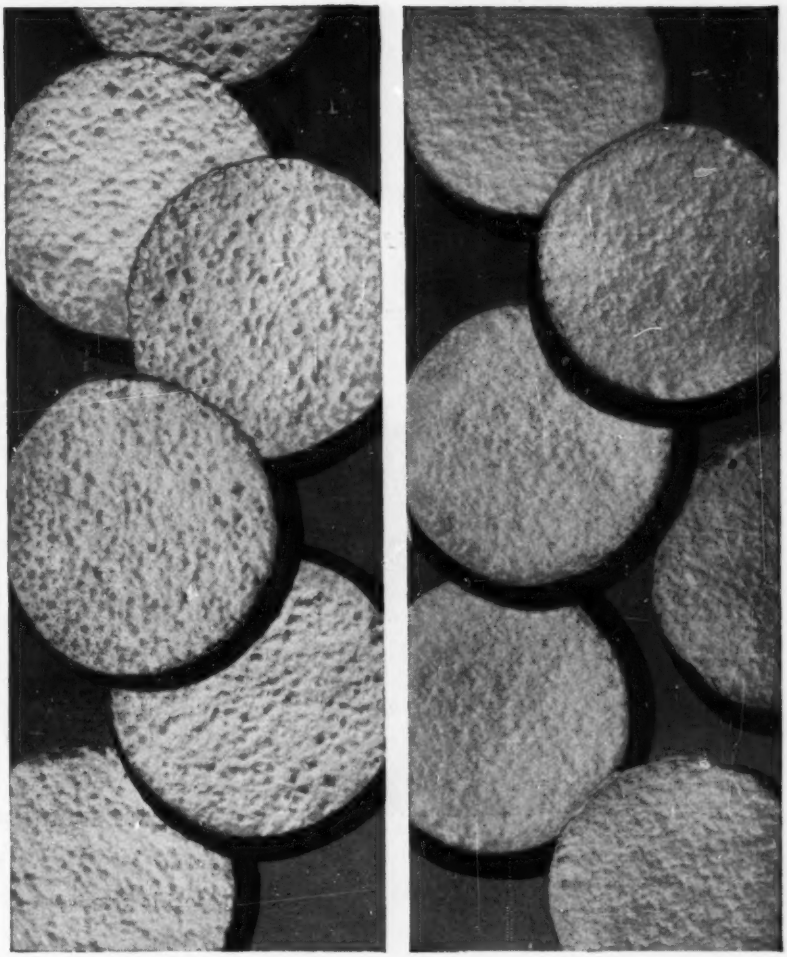
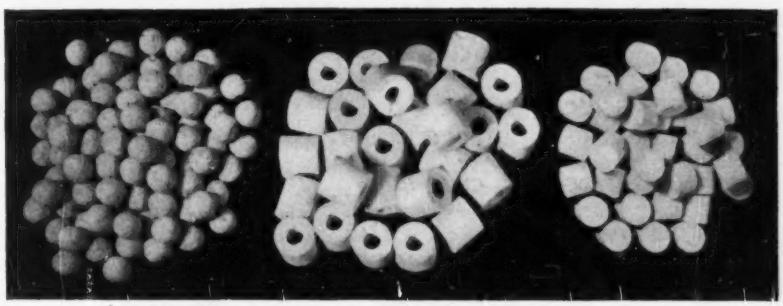


Greatly enlarged views of cross-sections of the two types of Norton catalyst support spheres. *Left: Norton High-Porosity Spheres* have connected pores throughout. *Right: Norton Medium-Porosity Spheres* have pores close to surface. You can also get Norton Low-Porosity Spheres if required.



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$HC(OC_2H_5)_3 + RR'C=O$ (Carbonyl Compound) ➡ $RR'C(OC_2H_5)_2 + HCOOC_2H_5$ (Acetal or Ketal)

$HC(OC_2H_5)_3 + CH_2(CN)_2$ (Malononitrile) ➡ $C_2H_5OCH=C(CN)_2 + HCOOC_2H_5$ (Ethoxymethylene Malononitrile)

$HC(OC_2H_5)_3 + CH_3CBrHCOOR + H_2$ (Alpha-Brom-Propionic Ester) ➡ $(C_2H_5O)_2CHCH(CH_3)COOR + C_2H_5OH + HBr$ (Acetal of Formyl-Propionic Ester)

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BUSINESS & INDUSTRY . . . . .

Half-Way Home

Still running strong at the midway point in its "obstacle course" of anti-trust litigation, Du Pont goes into the new year facing just three of the six anti-monopoly suits that were being waged against it one year ago.

Latest hurdle cleared by the 150-year-old firm is the "wood finishes case," in which the government, with almost stealthy quietness, dropped the charges in U. S. District Court in Pittsburgh last month. When this move came to light last week, company President Crawford H. Greenewalt rapped the Justice Department for not making a public announcement.

Observing with irony that the Anti-trust Division "showed no distaste for publicity at the time the indictment was obtained," Greenewalt said the government's failure to announce withdrawal of the charges "seems a trifle inconsiderate to those of us who squirmed under the initial publicity."

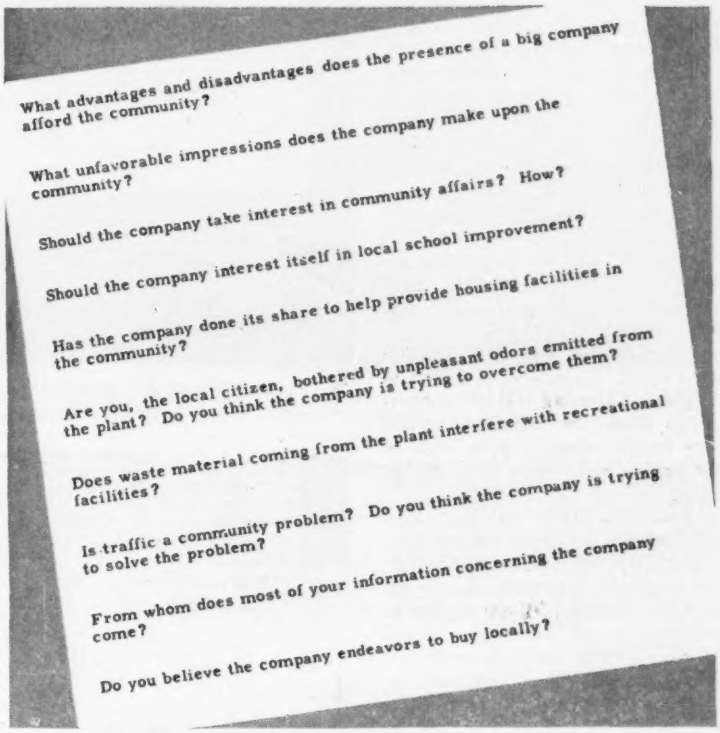
That case, started in 1948 as a criminal suit, accused the company and a retired employee, Henry Lackey, of conspiring with six other companies to fix prices, discounts and terms of sale of wood finishes. The other companies, probably wanting to avoid the costs and unfavorable publicity of a long court battle, pleaded "no contest" and paid fines.

Du Pont also came out on top in a companion case, also in Pittsburgh, which alleged a conspiracy to fix prices of paints, varnishes and enamels. Seven other corporate defendants pleaded "no contest" and paid fines; Du Pont and Glidden defended themselves in a 31-day trial and won a verdict of "not guilty."

The other anti-Du Pont case that was substantially finished up during 1951 was the one in which Du Pont and Imperial Chemical Industries of England were found to have restrained international trade through their control of patents and their joint ownership of certain companies.

Still ahead for Du Pont are:

- The "captive market" suit against Du Pont, General Motors, U. S. Rubber and 117 individuals.
- The "cellophane monopoly" case, still pending, with several thousand documents already in evidence.
- The "brake fluid" case, not yet come to trial, relating to the former agreement between Du Pont and Westinghouse concerning brake fluid.


What advantages and disadvantages does the presence of a big company afford the community?
What unfavorable impressions does the company make upon the community?
Should the company take interest in community affairs? How?
Should the company interest itself in local school improvement?
Has the company done its share to help provide housing facilities in the community?
Are you, the local citizen, bothered by unpleasant odors emitted from the plant? Do you think the company is trying to overcome them?
Does waste material coming from the plant interfere with recreational facilities?
Is traffic a community problem? Do you think the company is trying to solve the problem?
From whom does most of your information concerning the company come?
Do you believe the company endeavors to buy locally?

Questions such as today's public opinion survey might ask.

How Others View You

Opinion surveys have changed gears and objectives in the chemical industries. The new switch applies research techniques to learning how a company can become a better citizen of the community.

For years industry has employed survey techniques to discover what consumers thought of its product. Now, however, they are asking instead for community advice about policies and actions. The goal: to adjust their operations to the needs and desires of the community in order to guide plant management in its community relations.

Dow Chemical Co. for example, employed such a survey to find out what the people of Brazoria County, Texas, thought of the company. Features:

- No one interviewed was asked to give his name.
- Trained interviewers from outside Brazoria County were employed.
- The results were tabulated and analyzed by an independent opinion research corporation.
- Interviews were conducted in the homes of the community.

The survey's findings were frank, favorable on the whole, and constructive in suggestions.

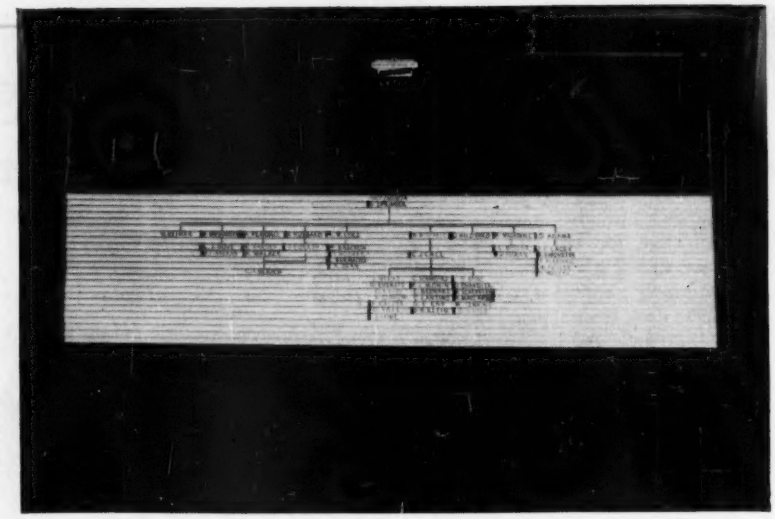
- Dow as a participating member of the community generally stood well in the opinion of the Texas Division's neighbors. Nine out of ten persons interviewed mentioned at least one advantage of having the company in the area, and three out of four listed no disadvantages—even when specifically asked. Employment opportunities, general help in making the area grow, providing payrolls, and abetting security and prosperity were the advantages mentioned most often. Dominance, plant odors, tight housing, and heavy traffic were the most common disadvantages cited.
- Only eight percent of all people

interviewed said that Dow, by any of its past actions, had made any unfavorable impression on its neighbors.

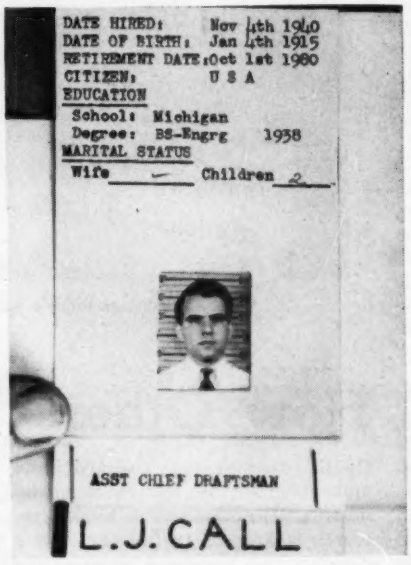
- Concerning interest in community affairs, about 60% of the people thought that the company showed the "correct amount of concern." Promotion of recreational activities and musical activities, and provision of recreational facilities were regarded as evidence of the company's interest in the community. Road improvement and help in solving housing problems were most frequent recommendations.
- A sizable block of "no opinion" showed up in respect to questions concerning Dow's aid in improving school conditions. Of those who did voice an opinion, however, most thought the company was doing its part.
- Sharp differences of opinion turned up on the subject of efforts to help provide housing and living quarters. As might be expected, certain towns in the vicinity were high in their praise, and others were highly critical.
- Less than half said that they were bothered by odors coming from the plant. But those who did complain were seemingly unaware of any attempt on the part of the company to overcome the condition.
- Most people felt that waste materials from the plant interfered in no way with recreational facilities in the area.
- Traffic problems were apparently a major concern. One out of every three persons voicing an opinion thought the company might do more to help iron out the problem.
- Information about Dow got to the people in the region primarily from friends, relatives, and others who worked in the plant. Few had any particular desire to know more about the company and its policies.
- Most people said they "just didn't know" in regard to the question regarding local purchasing. Of those holding opinions, however, few believed the company went outside the area when local buying was possible.

Questionnaires, such as Dow's, have become an increasingly important aid to management over the past ten years. The chemical roster, for instance, includes: Du Pont, Eastman Kodak, American Cyanamid, Celanese Corp., Diamond Alkali, International Minerals and Chemical Corp.—to mention but a few.

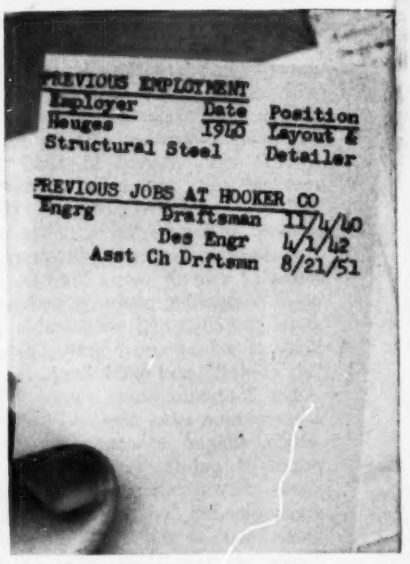
The basic idea is to build local confidence in the company. But, the trend to use them reflects in part the industry's growing consciousness of the vital importance of community relations.



1 FLAP-TYPE FILE DRAWERS, racked in bureau-like cabinet, enable boss to keep tab on technically trained personnel, with one slide for each department.



4 FRONT OF CARD gives name and job title; photo helps boss link name, face.



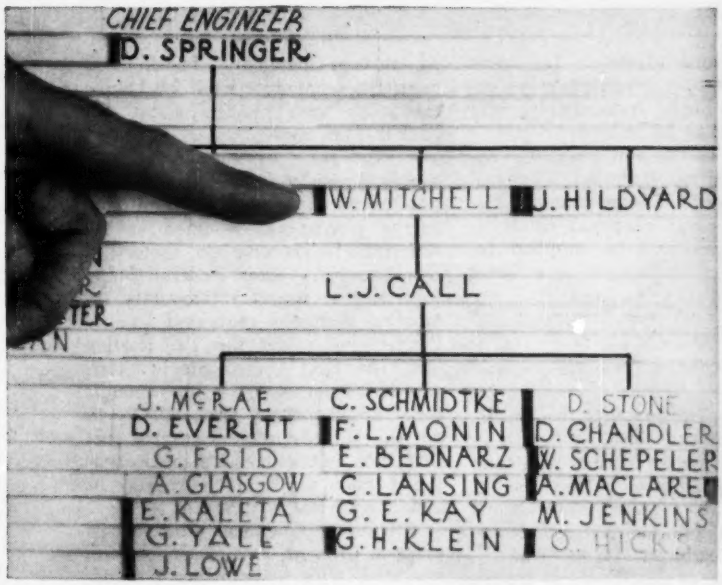
5 REVERSE SIDE lists employee's professional past at Hooker and elsewhere.

Right-Man, Right-Job Recipe

With engineers and chemists in short supply, and the shortage likely to continue for at least two more years, chemical processing companies are groping for ways to conserve their trained manpower. One device that helps put the right men in the right jobs is installed in Hooker Electrochemical's main office at Niagara Falls, N.Y.: It's a visual-aid personnel spotter that could be described as a cross between a card-file and a "flow-chart."

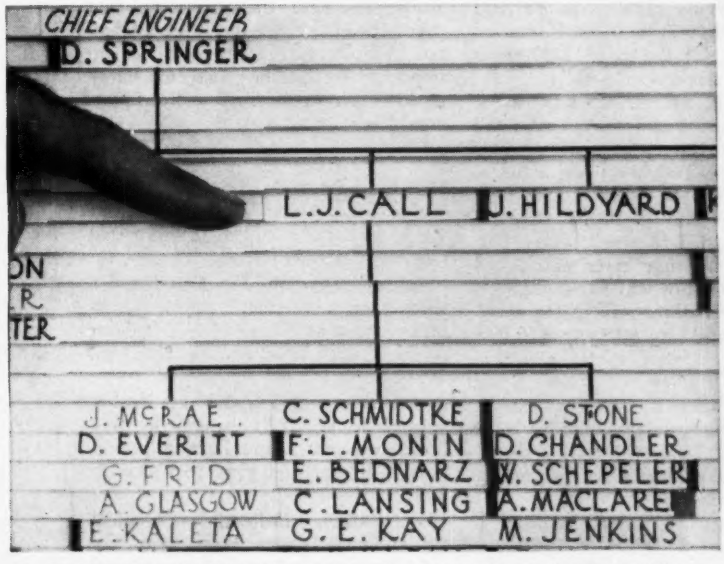
During the firm's post-war expansion, jobs were being created and filled so rapidly that it was difficult for management to keep up with the almost daily changes in the personnel line-up. The problem was not unlike the perplexity that surrounds the gag question in Abbott & Costello's baseball patter act, "Who's on first?" Man-hours used up in drawing and lettering new organizational charts became a ponderable expense item.

Set for Quick Changes: That was when company President R. Lindley



2 COLORED METAL TABS on file card corners show that Chief Draftsman is due to retire soon; color of tabs indicates how soon man is leaving.

3 NIAGARA PLANT CHIEFS* put file drawer on small table, sit down to size up situation.



6 DECISION IS MADE: After 14 months in No. 2 spot, LeRoy J. Call is moved up to Chief Draftsman, leaving his old job vacant until next session.

7 "CONGRATULATIONS": Department Head Springer (seated) tells Call the good news.

No One Lost in the Shuffle

Murray asked the engineering department to work out a chart that not only would be easy to keep up to date but also would help executives in making decisions on promotions. Murray wanted the chart to give useful information about the salaried employees—the man's present job, his previous experience, and a photograph so the executives would be able to connect the name with the person.

This problem was given to Richard W. Lyke, a chemical engineer. He called in George Bingham, a management engineer from Remington Rand's business services department, and together they worked out the novel, flexible system of personnel bookkeeping.

Basis of the system is the Kardex visible index file, invented by James H. Rand, now president of Remington Rand. The file consists of a cabinet of flat drawers, or slides, into which file cards can be fitted so that all are visible at once.

Future Vacancies Show: Make-up of each department in the company is outlined in a separate slide, with a file card for each salaried employee (except clerical assistants). The cards are arranged in the slide to indicate the person's positions within the department. Each card carries the employee's name, job title, former positions with Hooker and other companies, family data, and postage stamp-size photograph. Small metal tabs are clamped to the edge of cards

* Left to right: H. B. Young, works manager of Niagara plant; D. E. Springer, chief engineer; Frank W. Dennis, director of industrial relations.

to show employees who are due to retire soon.

With all this information in handy form, Hooker management can now appraise the personnel situation within any department with speed and accuracy just by pulling out the corresponding slide and scanning the cards. The system has been in use a year, covering employees at all three Hooker plants, and executives feel it's putting engineering logic into personnel deployment.

COMPANIES

Schenley Laboratories, Inc. plans to consolidate its operations in Cincinnati, Lawrenceburg, Ind., and New York, in a new permanent headquarters to be built "somewhere in the East." Several sites are under consideration, and construction is to begin early in '53.

•

Atlantic Refining Co.'s secondary offering of 32,000 shares of common stock has been oversubscribed. The stock was offered at $32 a share.

•

Anderson Laboratories, Inc., has completed transfer of plant facilities, laboratories and general offices from Adrian, Mich. to a new plant in Weston, Mich. in line with its current expansion program.

Anderson specializes in the production of rare and special chemicals.

EXPANSION

Calcium Carbide: The capacity of the new Air Reduction Co.'s calcium carbide plant at Calvert City, Ky., is to be doubled. The additional capacity is expected to be available early in '54.

•

Herbicides: The Ethyl Corp., Baton Rouge, La., will spend $2.7 million expanding production facilities for the output of herbicides.

•

Aluminum Reduction: Kaiser Aluminum and Chemical Corp. has placed in operation the third and fourth potline at its aluminum reduction plant at New Orleans.

•

Ammonium Nitrate: Mississippi Chemical Corp. has authorized construction of a new ammonium nitrate production unit at Yazoo City, Miss. The new addition will cost approximately $5 million and will double the present capacity of the plant.

•

Alumina: The Aluminum Ore Co., a subsidiary of the Aluminum Co. of America, has decided to construct a new chemical plant at Bauxite, Ark. to manufacture finished chemical products from alumina. The new plant, on which construction is expected to begin immediately, will cost more than $5 million.

Products of the new plant will include abrasives, hydrated aluminas, aluminum sulfate, impregnators, drying agents, and chemical catalysts. Raw materials will be supplied by Alcoa's plant at Bauxite now being completed.

LABOR

More Pay for More Presents: One way in which the chemical processing industries have been making this Christmas a bigger and better holiday is in hiring more employees this year than last winter and paying them higher wages than ever before. Latest word from the U.S. Bureau of Labor Statistics on this subject:

• Number of employees in manufacture of chemicals and allied products has been mounting since last summer; from the low of 739,000 in June, this figure climbed to 747,000 in August, then in one month jumped to 763,000. Of these, 531,000 were production workers.

• Weekly wages, already at a record peak, are still on the rise; the average for the entire CPI climbed by 66¢ to $71.38/week in September, paced by the nearly $3 increase in the soap and glycerine workers' average to $86.16/week. (The gap between CPI wage rates and those in other industries was narrowed that month as the all-manufacturing wage average jumped by $2.29 to $70.09/week.)

•

More on Wages: In two instances in the news this week, action by state and federal officials will have a direct effect on total labor costs for certain CPI companies.

• Secretary of Labor Maurice J. Tobin has set $1/hour as the minimum wage rate for synthetic textile mills working on Governmental contracts. The former minimum, 87¢/hour, had been in effect four years. The United Textile Workers (AFL) and the Textile Workers Union (CIO) petitioned early in 1952 for an increase of 26¢—exactly twice the boost that Tobin decided on.

• In South Carolina, State Insurance Commissioner D. D. Murphy again pared the rates that companies have to pay for workmen's compensation insurance. The new 9½% cut, effective Dec. 31, means that 1953 rates will be 32.7% lower than those of 1947 and will save employers in that state some $800,000.

•

Uneasy Peace: Two strikes have ended, at least tentatively, but in both cases the employees let it be known that they aren't happy about the back-to-work moves.

• Production of nickel pipe and tubing, urgently needed in construction of at least four major atomic energy plants, has resumed at the American Locomotive Co. factory in Dunkirk, N.Y., after Federal Judge John Knight issued a temporary injunction that was requested by the Government under the Taft-Hartley law. The CIO United Steelworkers, who had been on strike three months for a 26¢/hour pay rise, will try to get the U.S. Supreme Court to rule that such injunctions are unconstitutional when no legal controversy or violation of law is involved.

• Crossett Chemical Co. got its plant in Crossett, Ark., back into full operation after maintenance employees who are members of International Woodworkers of America (CIO) returned to their jobs. However, a union spokesman said the grievance that precipitated the five-day walkout had not been settled. Union members are opposing the company on its discharge of an employee who allegedly threatened his foreman.

•

ICWU in Spotlight: Of the five new chemical labor contracts reported last week, four are with the International Chemical Workers Union (AFL).

• Columbia-Southern has signed a three-year agreement granting increases ranging from 13¢ to 28¢/hour for employees at its plant in Natrium, W. Va.

• Hungerford Plastics at Rockaway, N.J., will raise wages by 5¢/hour, and pay hospitalization premiums. The contract runs to Oct. 15, 1954.

• Northern Industrial Chemical Co. at South Boston, Mass., is to pay a 3¢/hour general wage increase and hike wages for maintenance workers by 10½¢/hour. St. Patrick's Day will be added to the list of paid holidays, making seven in all, and two-week vacations will be given to employees after three years' service.

• Southern Carbon, a Columbian Carbon subsidiary located at Monroe, La., is boosting wages by 8¢/hour, bringing the total increase since last January to 15¢.

• The other new wage terms are in a contract between West Virginia Pulp & Paper and the International Brotherhood of Electrical Workers (AFL). They include a 4.1% general wage increase, two additional paid holidays, and night shift differentials of 3¢ and 6¢/hour.

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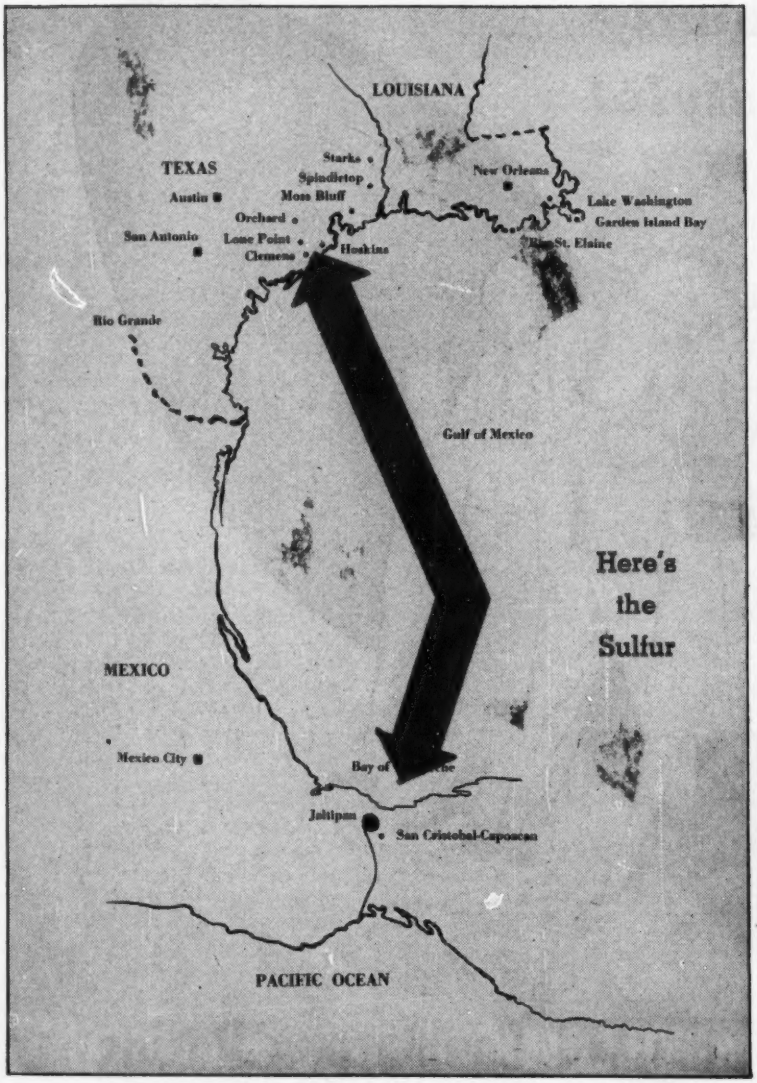


Mexican Sulfur Fever

From opposite corners of Mexico, the cry 'sulfur' is booming out again. And it's billed as the first "big" sulfur find since discovery of the Texas and Louisiana deposits 20 years ago.

Initial prospecting was largely the work of three brothers from Louisiana, the Bradys, who began wildcatting for oil in the 20's. When Mexico nationalized oil, they turned to sulfur drilling. (Technically, sulfur is mined, and mining was not affected by expropriation laws.)

Actual construction work started in 1942 in the Isthmus of Tehuant, near the border of Guatemala, and today the Bradys' struggle for government cooperation, and financial backing, seems finally to be paying off.

Organization and financing of the first three domes discovered was turned over by the Bradys to three American holding companies, operating through Mexican subsidiaries.

• Closest to actual production is the Mexican Gulf Sulphur Co., founded in 1944. Its San Cristobel plant, 40 miles up the Coatzacoalcos River, was built by the Tellepsen Construction Co., Houston, and is expected by July 1953 to be producing 500 tons of Frasch process sulfur daily. Expected price: $35-$40/ton.

Mexican Gulf plans construction at still another dome in Jaltipan early in 1953, where the proven sulfur reserve is at least twice as great as that at San Cristobel, or over 2 million tons.

• Pan American Sulphur, Dallas, meanwhile has completed financial arrangements for a $5 million plant at Jaltipan, with construction scheduled to begin in February '53. Gulf Sulphur Co. de Mexico, S. A., and a Mexican corporation domiciled in Mexico City, will be the operating company.

• Some two miles up river from San Cristobal lies Salinas, site of a third big sulfur dome. Most recently discovered, and financed by Gulf Sulphur, Kansas City, this dome is reportedly having its fourth well drilled. Work is still largely in the exploratory stage however, and production can hardly be expected before 1955.

• Texas Gulf Sulphur Co., the world's largest sulfur producer, has quietly joined the rush by moving into Mexico and acquiring large tracts of land adjacent to the Brady properties. No official confirmation has yet been received concerning 'strike' rumors.

• Far to the northwest, in Baja California, Mexico (some 100 miles south of Mexicali), the International Sulphur Corp. has begun shipping bulk sulfur. Destined for Dunkirk, France, via San Diego, the initial shipment is reported to be of high grade, and will be used by a French steel firm.

Thus, the excitement mounts, and the race is on. Predictions pour in from all sides—claims and counterclaims—and feverish shouts of 'mammoth' and the 'biggest' sulfur boom of all time.

Regardless of future findings however, enough wells have now been drilled to justify the conclusion that the Mexico deposits are rich—perhaps as rich as those of Texas and Louisiana—potentially possibly richer.

FOREIGN . . . . .

Bagasse/Cuba: The Cuban government's National Economy Board has given its approval to construction of a mill in Cuba to make newsprint from bagasse, the waste of sugar cane. Initial cost is estimated to be equal to—and in the future lower than—newsprint made from wood pulp.

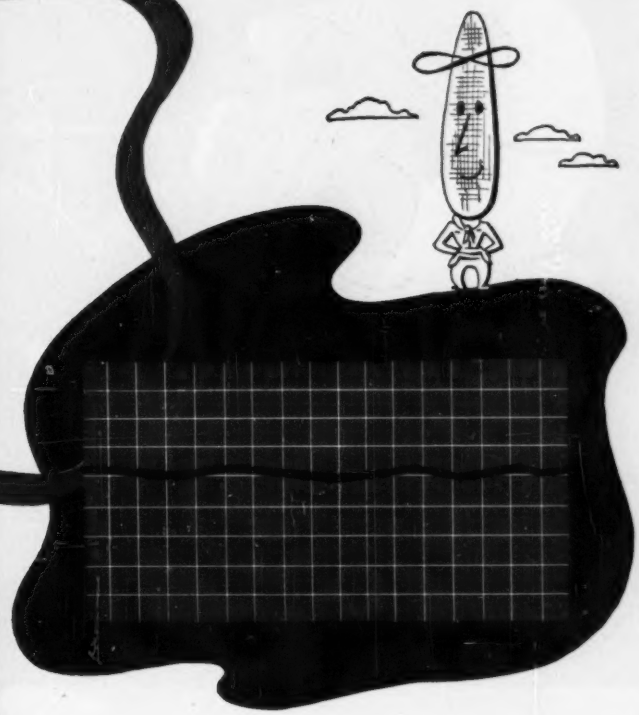
•

Drug Complaints/Philippine Islands: In response to complaints on substandard medical preparations manufactured and sold in the Philippines, health officials have prepared a draft bill seeking the creation of a Bureau of Medical Standards.

•

Titanium Dioxide/Spain: An increase in production capacity for pure titan-

BUY POLYOLS ON FACTS



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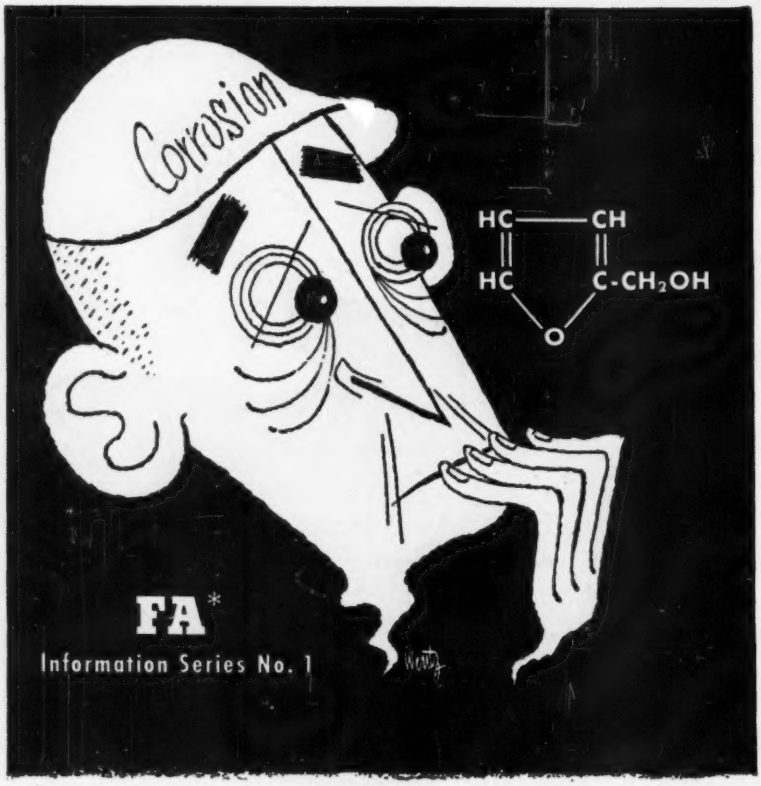

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Quaker Oats manufactures furfuryl alcohol, but does not make furfuryl alcohol resins.

1. Low Cost permits wide applications in present liquid resin markets. Though they are competitive in cost and have many of the properties of phenoplasts and aminoplasts, furfuryl alcohol resins give *extra* value in that they are more inert to chemical attack.

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3. Corrosion resistant means essentially no attack or disintegration by weak or strong alkalies, acids and solvents or combinations thereof at room temperatures or at elevated temperatures.

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In San Francisco: The Griffin Chemical Company • In Europe: Quaker Oats-Graanproducten, N. V., Rotterdam, The Netherlands; Quaker Oats (France) S.A., 3, Rue Pillet-Will, Paris IX, France
In Australia: Swift & Company, Pty., Ltd., Sydney • In Japan: F. Kanematsu & Company Ltd., Tokyo

ium dioxide following the installation of new plants using a process licensed from abroad has been noted by the Fabrica Espanola de Blanco de Zinc S.-A., Barcelona.

•

Aluminum Bronze/Australia: A new aluminum bronze has been developed by an Australian company in Melbourne, Victoria. Its mechanical properties are said to give the characteristics of a forging when it is produced as an accurately dimensioned casting. Its resistance to chemical corrosion makes it suitable for suspension hooks in hot-acid pickling processes.

•

Pyrites/Norway: A new pyrites mine at Skorovas, North Norway, has begun production. The mine will produce about 150,000 tons of pyrites a year. The Skorovas mine is the first in Norway to use the heavy media process for refining and enriching the ore.

KEY CHANGES. . .

J. P. Wiseman: To president, Fluor Corp., Toronto, Canada.

J. A. Hartley: To chairman of the board, Braun Corp., Los Angeles, Calif.

D. O. Hency: To president, Braun Corp., Los Angeles, Calif.

Carlton Bates: To executive vice-president, Solvay Process Div., Allied Chemical & Dye Corp., New York, N.Y.

Frederick P. Yonkman: To vice-president in charge of research, Ciba Pharmaceutical Products, Inc., Summit, N. J.

Robert C. Myers: To director of market development, United States Steel Corp., Chicago, Ill.

George W. Mikkelsen: To director of Marine Chemical Dept., Fine Organics, Inc., New York, N.Y.

William P. Black: To industrial detergent sales manager, Lever Brothers Co., New York City, N.Y.

Victor A. Denslow: To manager of wax sales, Cities Service Oil Co. (Del.), Chicago, Ill.

Wm. J. F. Francis: To general sales manager, western, American Potash & Chemical Corp., Los Angeles, Calif.

William F. Tefft: To sales manager, leather chemicals group, American Cyanamid Co., New York, N.Y.

Wiley J. Pickett: To eastern sales manager, Stepan Chemical Co., Chicago, Ill.

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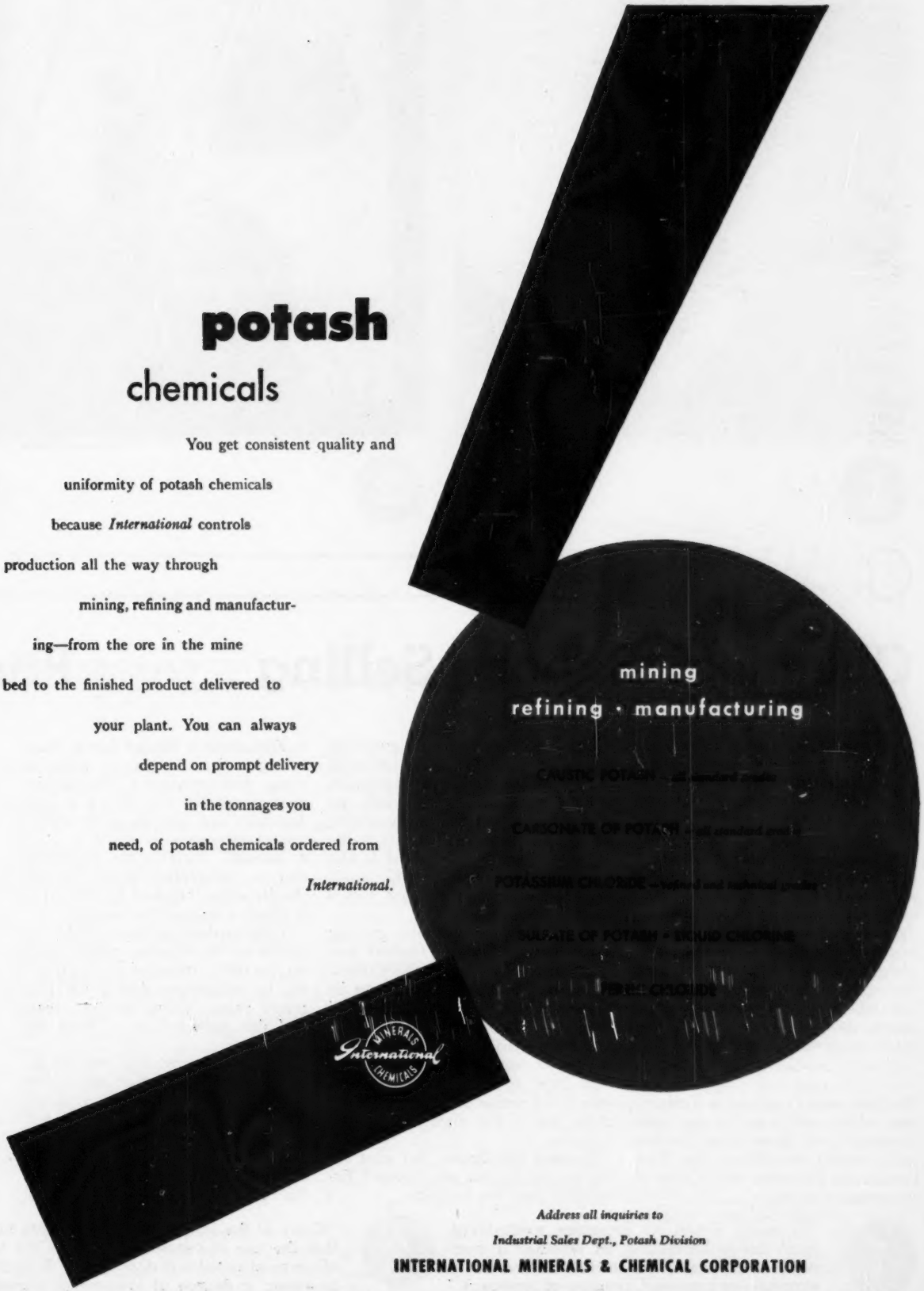

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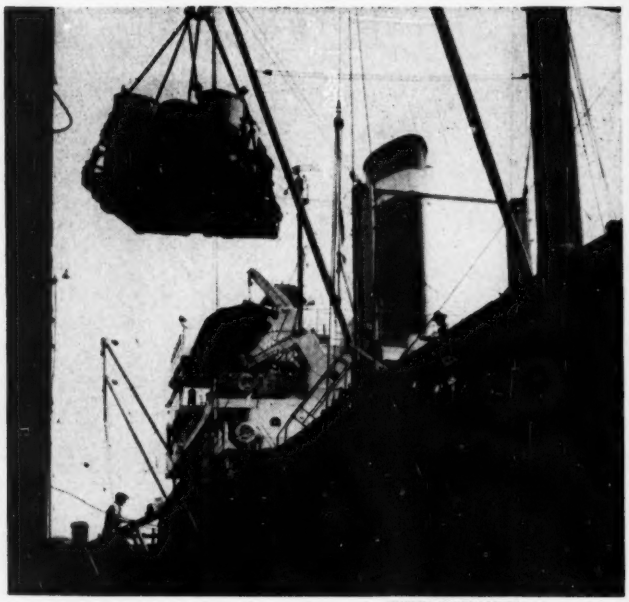


UNITED STATES LINES

2

C W Report

Chemical Export Selling . . . . . Past . .

Some like us, others don't. That's the diverse report which summarizes a recent news article (CW, Sept. 27) *on a series of interviews held with overseas importers of American chemicals. The disagreement is, however, just a reflection of the non-uniform character of the export policies being practiced by the individual companies which make up our chemical industry. This non-uniformity is clearly evident in the results of a survey, just completed, on those policies and practices. Here—as an outcome of that study—is John Sherwin's report to the industry on the present, past, and future of chemical export selling.*

The facts seem to add up to a conclusion which will come as no great surprise. It can be said that, by and large, exports are still—as they have been in the past—the stepchildren of the chemical industry.

But deep-seated changes are in the making. Repeatedly, in the course of our survey, we came across companies—both large and small—which are giving the foreign field an increasing amount of attention. They are in the minority, true, but the trend is also shown by the frequency with which new companies are creating formal export organizations.

In all, there seems to be a growing realization that foreign markets present opportunities for American chemicals—but that these markets can be developed only if they are tended and cultivated like our domestic outlets. The effort must be a steady one, and the tender twig must be protected in both good weather and bad—otherwise it will wither away. This is especially true if the plant is new and unknown.

Demand and Desire: But what are the reasons for this new interest? Essentially they are twofold:

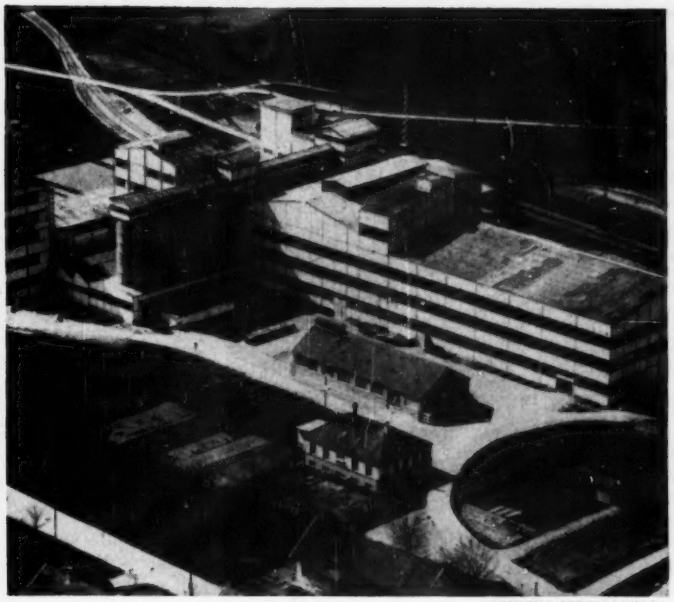
- First, there is the fact that in many countries the standard of living is rising, thus creating a demand for more chemicals. This coincides with America's new position as the chemical powerhouse of the world.
- Secondly, there is the realization that a substantial export market already exists, followed by the desire to obtain a share of that market.

These markets are illustrated by the graphs on the following pages, showing the dollar values of goods exported, by subgroups, during the past seven years. Three pre-war years are also indicated as a basis for comparison.

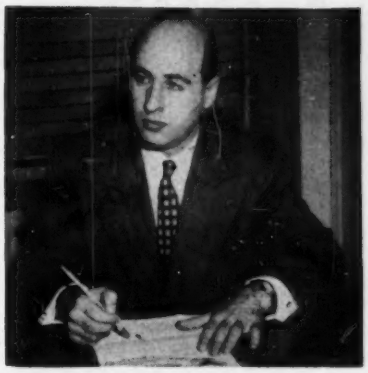
It is noteworthy, and perhaps indicative of a trend, that only a few of the ten listed groups have shown a steadily increasing dollar value during the recent past, and that two of the most striking are "Chemical Specialties" and "Medicinal Preparations." On the other hand, the most steady

1 **"In using American exporters exclusively, there are—depending on whether a company is passively or actively interested in exports—two general avenues of approach."**

2 **"Many of the larger companies have found that the use of overseas agents is the technique most suited to their purpose." It requires, however, a degree of long-range planning.**



REICHHOLD CHEMICALS, INC.



JOHN SHERWIN, of Manursing Lodge, Rye, N. Y., has had a wide background in foreign trade activities. Schooled in Switzerland and the Universities of Columbia and Minnesota, he's an expert in four languages, admits to a speaking knowledge of three others. His present import-export work has taken him to Latin America and to Europe seven times since 1947.

3

. . . Present . . . . Future

downtrend is exhibited by "Soap & Toilet Preparations."

The most significant word is "Specialties"; it points clearly the way of things to come, the future of U. S. chemicals in the export market. The charts seem to indicate:

• Growth possibilities for specialized products, where our research and technical know-how allows us to stay just a step or two ahead of the rest of the world, and . . .

• A continuing decline in all non-essentials reproducible elsewhere, at least as long as the dollar is a hard currency or until such time as we restore the balance between our total exports and imports. (That the latter are presently still lagging sadly behind our exports is evidenced by the figures of Table II, page 25.)

In between these two groups of commodities are the remaining categories of raw and semifinished materials, for which there will always be some export demand. Due to a particular market situation, or our ability to produce the same product as other countries but at a cheaper price, or a better product at a slightly higher price, there will always be, potentially, a limited and fluctuating market. But its stabilization and long-term growth is largely dependent on the initiative and resourcefulness of American chemical businessmen.

Why Export?

Let us stop for a moment to look at these charts from the viewpoint of an individual company. In most of the categories, the dollar quantities are substantial enough to interest even the giants among our chemical companies, let alone the medium-sized or small ones. Many a company has reached the decision to make a try for a good share of this market, and the thinking undoubtedly has been along these lines:

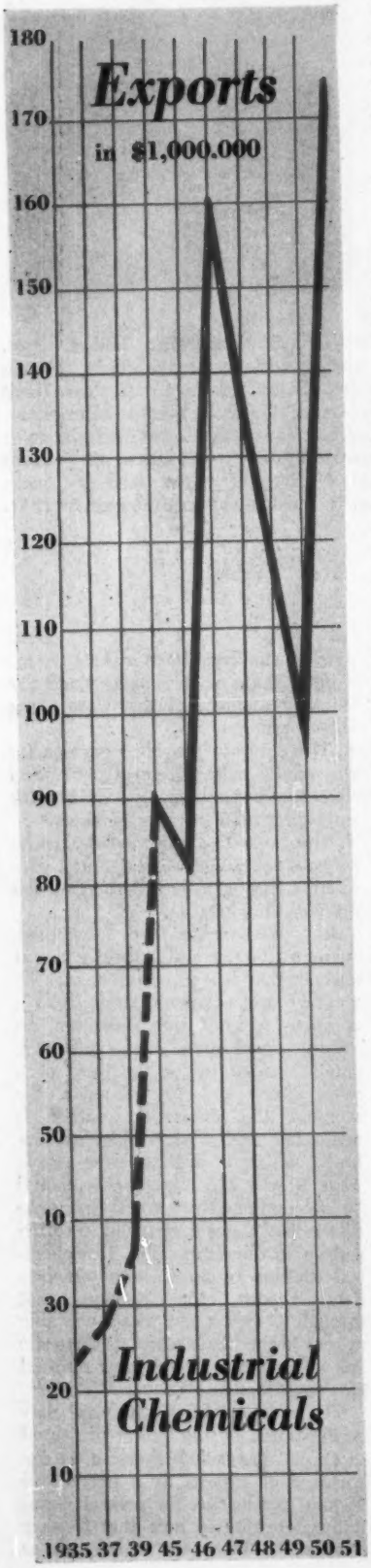
• The desire to provide a cushion for the undesirable effects of short-term domestic business cycles, or to pick up falling sales in times of need.

• The hope to reduce costs-per-unit by capitalizing on a greater unit production than can be absorbed by the domestic market.

It is undeniable that a company with an effective and aggresive export organization has a better chance to weather any economic storm than a company without such a cushion. An export organization, to be effective, cannot be set up at the drop of a sales figure and folded again the moment the domestic weather is again fair and warmer, like an umbrella which is ever at close reach. That is why the organization should be strengthened in good times—so that in bad times it can help to soften a drop in domestic sales. The chemical division of an Eastern oil company reports, for instance, that through its export activities it was able to stay in the black when its domestic operations alone would have resulted in a considerable loss.

The unit-cost factor, in turn, may be illustrated by the figures presented in Table I (*page 23*), showing the importance of exports as a percentage of total production for several items. It is interesting to note that for one product, at least, the figure ran as

3 **"The branch-office or manufacturing subsidiary type of organization is undoubtedly confined to the larger corporations." (Here: A Swiss plant operates under a U.S. agreement.)**



high as 40.3% in 1951. In the cases where the figures are smaller, however, they may be just as significant for an individual firm. This is especially true if most of the company's competitors have disregarded the possibilities of the export market.

Figures also show that exports for the whole economy run between 7 and 12% of total U. S. production (see Table III), a fact which should certainly interest a production manager who is attempting to reduce his unit cost, but whose company does not yet have an appreciable export volume.

In addition to these factors, the survey reveals that the cost of selling abroad is, in some cases, estimated at a lower figure than that experienced in domestic selling. The exceptions are for large-volume industrial chemicals, where the unit cost of sales is generally low and where the cost of export selling is about equal to its domestic equivalent.

Royalty Route: Moreover, the survey indicates that, in addition to direct exports, many other ways and means are, or have been, used to derive gains from the foreign field. One principal method is to export know-how, either under license or royalty, to reliable companies abroad. This possibility should never be neglected since it allows a company to "export" to areas where the financial situation would not otherwise permit it.

At least one large and aggressive U. S. resin producer has made extensive use of the licensing and royalty technique, with apparent success, and has thus obtained a share of world markets where any other method of approach would have excluded its products as being non-essentials.

Another noteworthy idea is to increase export markets by using the principle of barter. One leading non-chemical manufacturer even established a policy of accepting any and all types of merchandise, imported from abroad, as direct payment for its own exported goods. The plan was discontinued eventually because the difficulties involved in getting into unknown commercial fields were greater than the benefits to be derived from the barter. It can be assumed that most established channels of trade can do business more economically than an outsider, so that the outsider is forced to sell his bartered goods at a discount. This reduces considerably the profit margin of his own exported product.

As a consequence, straight barter deals have not found a place in the export business of most U. S. chemical companies. But sometimes, if a company is able to fill any of its own raw-material needs by direct imports from abroad, it may actually be able to increase the profit possibilities to be found in foreign commerce.

Another method which has been found advantageous is to export semi-finished materials to overseas subsidiaries which are largely financed by selling a stock interest in the venture to foreign companies interested as consumers of the ultimate finished product. This procedure was used by a prominent Midwestern plastics manufacturer in its dealings with at least one South American country.

Finally it must be added that for many years companies in certain industries have banded together in trade associations for export purposes. The now-defunct alkali association was an example of this technique. The office of such an association promotes the export activities in which the members share.

Three Export Techniques

There are probably as many different export set-ups as there are companies. However, some major breakdown into types can be made among those firms in the chemical industry which are now engaged in exports. Here are the types, and their advantages:

Sales through U. S. Exporters

In using American exporters exclusively, there are — depending on whether a company is passively or actively interested in exports—two general avenues of approach:

- If the company is not particularly interested, exports can be handled through the domestic sales department, with one man to handle all export inquiries that might come in. Since the company, in this case, is usually not well known abroad, most inquiries will be from U. S. exporters and can be handled through them like any other domestic sale.

This type of organization presents one real advantage–the fact that

costs are practically nil. The results obtained depend on the degree that the company's products are needed abroad, or on whether a buyers' or sellers' market is prevailing at the time. In the latter case, the results are oftentimes quite satisfactory. Generally, however, this can not be recommended for maintaining a steady, active export demand.

• If the company is sufficiently interested to make some effort but is not yet willing to get into the snarls of licenses and shipping documents, a small export division may be formed as a part of the sales department. All sales are made through U. S. exporters, however, and no agencies or representatives are appointed abroad. But the export manager is often given some latitude to stir interest in the company's products overseas by direct contact with customers, importers, and commission agents.

Such an organization is often sufficient, particularly for smaller companies not willing or able to develop their own organization—or which have products of a specialty type.

Exports through agents abroad

Many of the larger companies have found that the use of overseas agents is the technique most suited to their purpose. It requires a degree of long-range planning; does involve the establishment of a more formal export organization; but does not involve any of the risks inherent in operating through subsidiaries abroad. Although some of the largest companies are using this system, it is probably more widely used among medium and smaller companies which would not be financially able to consider any of the more involved types of foreign organizations.

A company intending to institute this type of organization hardly needs, to start with, more than a good export manager and his secretary. This system can best be developed gradually—it is almost impossible to just blindly pick the best agent or agents in every country.

Many a company has started by selecting its agents through a trial and error method, but this certainly is not the most efficient way to proceed. A better way is to appoint no agents at all at the start, giving all comers and applicants from abroad equal opportunity to prove themselves. Then one or more for each country can be chosen on a performance basis.

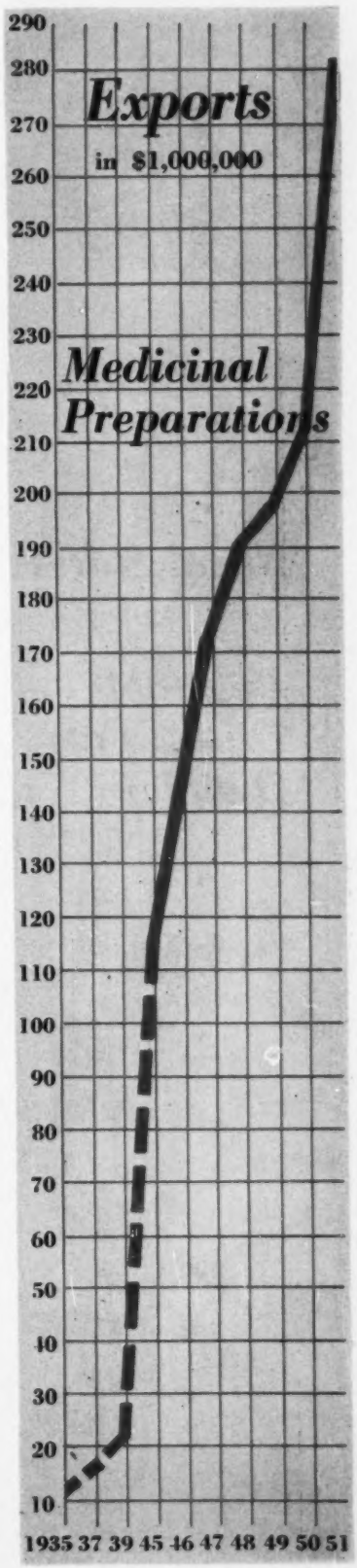
Even in this way, errors can and will be made. Frequently an overseas firm which acts as a good agent today may no longer be able to tomorrow—owing to any number of causes. Among these can be listed: change in ownership, political upsets, and financial insufficiency for planned expansion. Thus, when an agent is first appointed, it might be best to make it for a relatively short period of time, or to insist on a performance clause in the contract, if practicable.

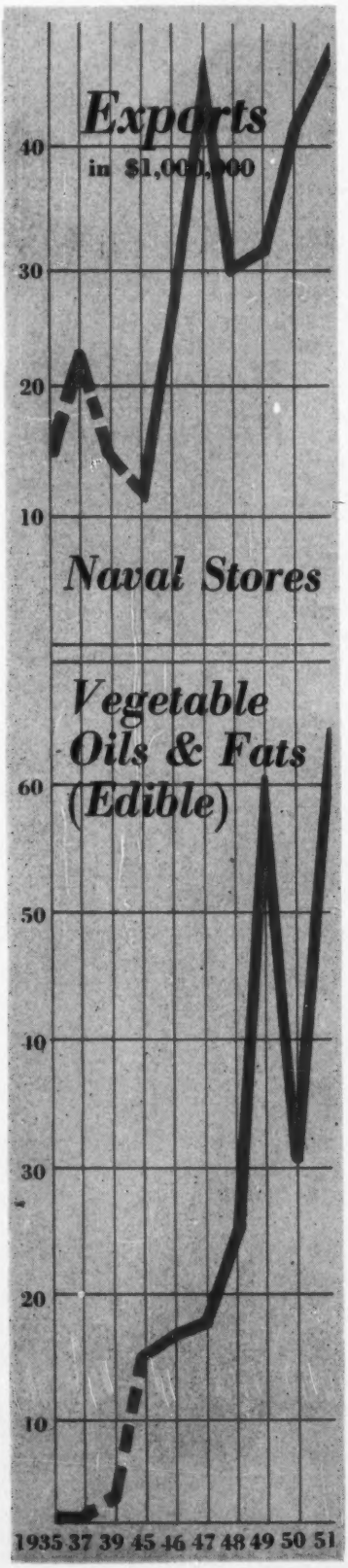
We might pause here for a moment to consider the term "agent." Some companies prefer to call them "representatives," "sales representatives," or just "distributors." At least one of the largest chemical companies prefers the last term for legal reasons, there being a feeling that a "distributor" cannot commit a company legally the way an "agent" or "representative" might.

Another nettlesome problem is the question of whether or not the agent should be appointed on an "exclusive" basis. It's a term frowned upon by some companies for antitrust-law reasons. There is a further question as to whether agents should be appointed for the complete line, or for only one or a few products. This is a decision which must be made according to the types of products the company makes, the quantity of different products in the whole line, and the size of the potential market for each product in any particular country, as shown by available statistics.

There is thus no rule of thumb. The decision has to be arrived at separately for every country and every agent, taking into account all considerations. If the company has, for instance, two distinct lines—such as industrial and agricultural chemicals—it may well be necessary to have at least two agents in every major country. And in some nations it may even be necessary to select separate agents for certain products. All of this depends largely on the organization of the foreign company which has been picked as an agent, and on how well it is able to reach the different domestic industries in which the exporting company's products might find a use.

Agent Relations: Having selected its agents, the question of protecting their interests looms large for the exporter. If an agent is "non-exclusive" the problem is a lesser one, but the interest of the agent in building markets within his country will also be less. If the agent is "exclusive," then protecting his interests may present quite a problem at times. This is particularly true these days when some countries allow their domestic firms free use of some of the dollars they have earned. The American exporter





may suddenly be confronted with a direct-purchase offer made by a firm in a country which is very short of dollars, even though the regular agent there has not been able to obtain a license for months.

There are only two realistic solutions to this problem. One is to go ahead and sell the merchandise; informing the agent that the mere fact that the company's name is becoming better known in his country will ultimately benefit him, too. The other is to reserve a commission for the agent. In either case, if the company doesn't sell to the man with the dollars, someone else will.

The last problem, but by no means the least, is that of keeping up the agents' activities on behalf of their American associates. This includes the questions of how to stimulate them, how to supervise them, and how to judge their effectiveness. For this, there is nothing better than a periodical personal contact, preferably in the agents' own countries. It is there that it can best be determined whether or not they know the right people, are well thought of by their customers, have properly trained sales personnel, and are sufficient in initiative, interest, and ability.

Between visits by someone on the company staff—and in addition to regular correspondence — a continuous flow of literature to the agent, preferably in his own language, and perhaps even to some of the major customers in the agent's country, can be very helpful. Advertisements in foreign journals, participation in industry fairs, trade shows, or conventions all are of further aid in getting the company known and respected abroad.

Exports through company organizations overseas

The branch-office or subsidiary type of organization is undoubtedly confined to the larger companies. It requires a sizable staff and the resultant expenses are imposing. The variations and combinations which can be used are innumerable, but here are three main categories:

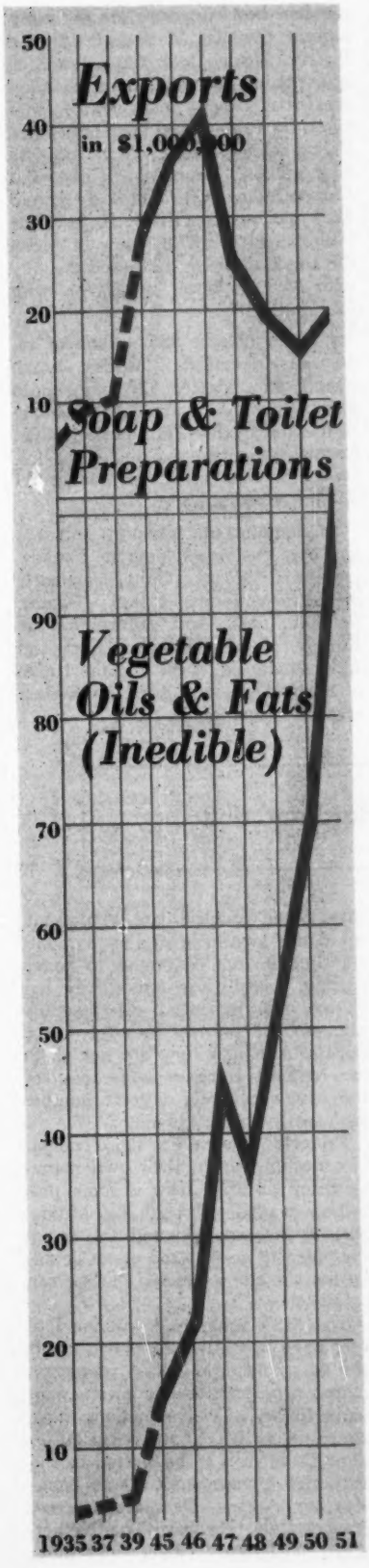
- **Sales offices abroad**—directly dependent on the parent company or one of its subsidiaries. Since many small countries do not warrant the establishment of an office, the sales offices abroad are frequently also regional headquarters, and work with or through local agents in the smaller adjoining countries. Such offices, however, often run into complicated tax situations in the resident countries.
- **Non-manufacturing subsidiaries**—partly or wholly owned. These companies are incorporated in the foreign country, and thus offer some of the advantages accorded to fellow nationals. This is particularly important with the nationalistic trend evident today in certain parts of the world. Naturally, these companies are only established in the more important countries, since most small countries' markets would generally not warrant the expense involved.
- **Manufacturing subsidiaries**—partly or wholly owned. These may operate on a royalty basis, either working with semi-finished materials brought in from the U. S. or producing the product from domestic or other raw materials. They might also produce only selected products—importing others of the line from the U. S. —or they might even be used to ship some semi-finished goods back to the parent company. They have the definite advantage of being able to sell in markets where dollar sales would be impossible, either because of scarcity of dollars, or because of price.

Most U. S. companies which have established their own organizations and subsidiaries abroad have done so to overcome present financial difficulties due to foreign exchange problems, or to take advantage of lower operating and production costs abroad. The major problem facing a company following this course is, however, the one of bringing foreign earnings home. It is usually a difficult task to convert them into dollars. Frequently some arrangements can be made when the project is first undertaken, but often the dividends have to be returned very indirectly, *e.g.*, through other subsidiaries. Generally speaking, this is a problem for financial experts, and the solution is subject to constant change, from one country to the next, and from one month—or even day—to the next.

The Markets

Although Europe was, shortly after the war, by far our largest market, European industry is to a great extent today back on its feet and is even starting again to compete with us in most world markets. This does not mean, however, that the European market is completely closed. On the contrary, it is still a lucrative one, particularly for specialty products and, possibly, petrochemicals.

But with heavy industrial chemicals, we have to turn mainly to South



America for our export market, as well as to continue the development of the Far East and Africa. While European — particularly British and German—competition is making itself felt everywhere, it is—reportedly—least successful in Latin America as of this date.

Some competition elsewhere comes from less familiar sources. Take, for instance, the inroads now being made by alkalis from Yugoslavia in the Middle Eastern markets.

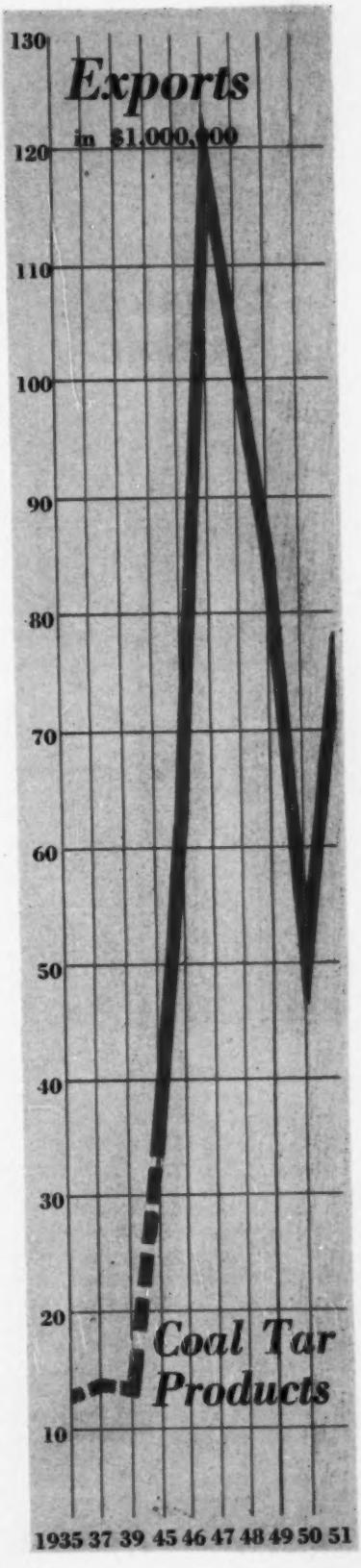
The export graphs on these pages show the dollar pattern for each subgroup. Valuable information may be gained by determining which countries are the prime markets in each case. Let us look first, using the data for 1951, at the category which has been steadily declining, soap and toilet articles. There were only four countries in the world which took more than $1 million worth from us: Venezuela, with nearly $2 million; Japan and Belgium with a little over $1.5 million; and finally Canada.

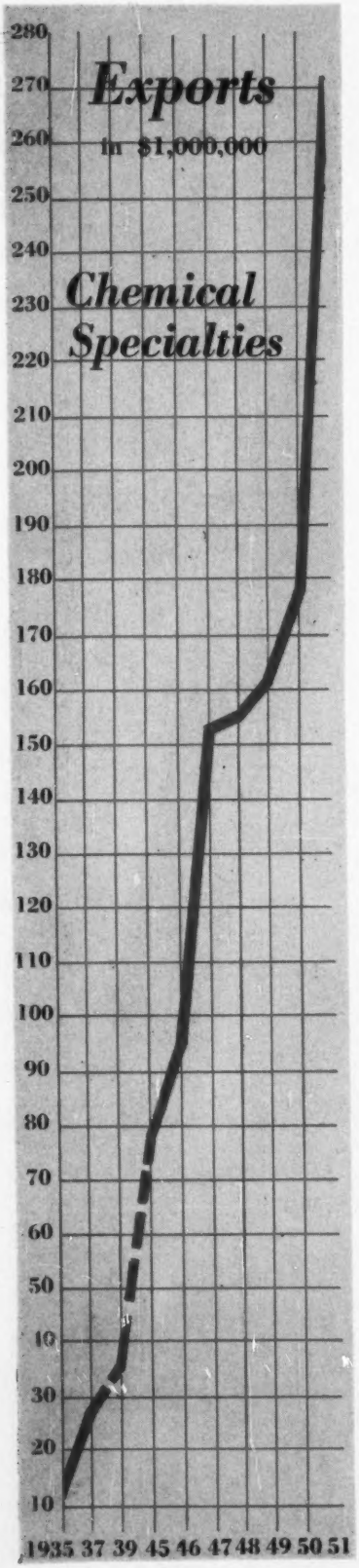
In this connection it is interesting to note that the only other European country outside of Belgium which took any sizable amount was Switzerland ($444,000). In view of its strong currency position it was able to pay for the luxuries. Cuba and the Republic of the Philippines were other substantial customers, approaching the $900,000 mark.

In the field of medicinal and pharmaceutical preparations, it is remarkable that although there were six countries in Latin America which took over $10 million worth each, there was only Italy, in all of Europe, to make the grade; and she just barely surpassed the mark. In Brazil we sold over $37 million, in Mexico and Canada about $18 millon, while the Philippines took $15 million, and Argentina $20 million. Cuba, Venezuela, Colombia and India round out the list of over-$10-million customers.

To show how high a priority this category of products is given, it may be worth mentioning that little Paraguay spent $559,000 on medicinals, while only spending $129,000 on all other categories combined.

Across the Border: Our largest customer of all is, of course, Canada. Canada leads the list of our customers in every category except the two mentioned above, and buys more from us than all of Asia combined; or putting it another way, more than two-thirds of what all of Europe combined purchased in 1951. In view of its relatively small population, this is a remarkable showing and clearly points to where an export effort can bring





greatest results. However, the competition for this market is vigorous.

In coal-tar products, Britain, Brazil, Mexico, Argentina, France, India and Switzerland followed Canada in that order. Canada took almost $18 million, Britain $7.5, Brazil $6, Mexico $5, Argentina $4, while the others took about $3 million or a little over.

Fertilizers went to Canada to the tune of $12 million, followed by the Philippines, Cuba, Japan, Colombia and Brazil, all over $2 million. On the other extreme, we find that Bolivia, Spain and Portugal took $1,000 each. Could they have been sampling?

Pigments, paints and varnishes found a $16 million market in Canada, a $10 million one in Britain, while $8.5 million went to France and $5.8 million to the Philippines. Our largest customers in South America were Brazil and Mexico, followed by Venezuela, the former with about $5 million, the latter with about $4.5 million. Germany took only $651,000 worth—clear proof that they are back to making their own.

The two most important categories in the purely chemical field are chemical specialties and industrial chemicals, in that order. Here we find that our four best customers are the same, namely Canada, Mexico, Brazil and Britain. Mexico took the astonishing quantity of $33 million of chemical specialties, more than twice that taken by Britain, and 50% more than Brazil, while Canada led the lot with $54 million. Venezuela, Cuba and France follow, with $11.8, $8.8, and $8.0 million respectively. In Asia, the Philippines took $7.8, while in Africa the Union of South Africa led the way with $3.5, followed by Egypt, with $2.1 million.

Canada bought $35 million of industrial chemicals, while Brazil bought $25, Mexico $17 and Britain $11 million. Argentina, France, the Netherlands, the Philippines, India, Germany, Switzerland and Cuba followed in that order, all taking $4 million or more.

In summing up, it can be said that our best customers, next to Canada, are Brazil, Mexico, Cuba, Venezuela in Latin America; Britain, France, Belgium, Italy and Switzerland in Europe; the Philippines, Japan and India in the Far East; and the Union of South Africa and Australia in their respective continents.

Currencies—Hard and Soft

Today there are really only two currencies, outside our own, which can be considered "hard" currencies—and which are thus readily convertible into U. S. dollars at any time. They are the Swiss franc and the Canadian dollar. Some currencies, like the Belgian franc and the West German mark are perhaps less subject to exchange difficulties than some, but generally all other monetary units are not easy to convert into dollars. While there is talk about several currencies becoming at least partially convertible, it does not seem as if the large majority of them will become more freely exchangeable for some time to come.

Because this is so, the system of import license—with the accompanying governmental control over the importing country's scarce supply of dollars—will remain with us during the foreseeable future. It is thus not enough just to have a customer abroad wanting the merchandise. It is also necessary to be sure that he will get permission to pay in dollars, and to pay within a reasonable length of time. Some countries are, at present, up to nine months behind in payments—a situation not conducive to heavy trading. Luckily, as our survey has shown, many chemicals are generally high on the priority lists for scarce dollars. Although they are not all in the topmost category with some of the new antibiotics, a great number are usually not far behind.

Protected Plants: For those companies desiring to do their own manufacturing abroad, there is some protection available through the Mutual Security Agency. Although this is not the place to go into too many details on the subject, a general outline can be given.

The MSA program is designed to encourage new American investments abroad, and provides protection against expropriation and currency inconvertibility. Twelve nations have signed pacts which are designed to allow these risks to be shifted to the respective governments. These countries are: Austria, Denmark, Greece, France, Italy, Norway, The Netherlands, Belgium, China (Formosa

only), Israel, the Philippine Republic and the Federal Republic of Germany. Convertibility guarantees are also available for Turkey and the United Kingdom. It is to be expected that this list will grow steadily.

In order to benefit from these guarantees, certain conditions have to be fulfilled. Particularly important is the approval of the investment by the foreign government concerned, plus approval by the Director of Mutual Security. Naturally, there is a premium collected for such insurance. Investments of different types may be protected, including equity, loans, and royalty agreements, if made for a minimum time of five years. The published list of companies which have made use of the guaranty includes some of the best known names in American industry, but chemical companies are not very well represented as yet.

Table I.

Exports as % of production.

Product	*1939*	*1948*	*1949*	*1950*	*1951*
Benzol	10.3	0.9	0.8	0.6	0.1
Phenol	3.0	10.1	10.3	4.5	5.6
Dyes and Stains	n.a.	n.a.	23.2	12.6	12.2
DDT	n.a.	n.a.	39.5	24.7	n.a.
Cellulose acetate plastics	5.6	10.2	10.0	6.3	11.3
Calcium carbide	2.5	2.4	1.7	0.9	0.9
Soda ash	2.7	4.2	1.8	1.5	2.9
Synthetic anhydrous ammonia	2.1	0.3	0.3	0.7	0.3
Chlorine	1.2	1.0	0.7	0.4	0.6
Carbon black	38.8	24.8	24.8	28.9	25.7
Paint, varnish, lacquer	2.2	2.9	2.8	2.2	2.8
Phosphate rock	25.3	13.2	14.0	17.9	n.a.
Copper Sulfate	33.8	43.6	40.1	34.5	40.3
Turpentine	39.2	14.7	24.7	29.2	18.8
Rosin	41.2	22.3	29.2	40.5	31.5
Soybean Oil	1.7	7.5	17.2	15.3	20.5

Taxes—at Home and Abroad

Several chemical companies have recently found it advisable to establish two separate subsidiary corporations to handle export sales. The reason for this can be found partly in the U. S. Internal Revenue Code. It allows an exemption from the excess profits tax for corporations handling sales to all areas of the world not falling within the definition of an even more favored type of corporation—one that deals only with countries in the Western Hemisphere, exclusive of the U.S. These "Western Hemisphere corporations" are entitled to three major tax benefits: (1) 30% credit on both normal taxes and surtaxes, (2) exemptions from the excess profits tax, and (3) entitlement to foreign tax credits.

Qualification as a Western Hemisphere corporation for tax benefits requires, however, that title to materials sold must legally pass from seller to buyer outside the U.S. The simplest way to meet this requirement is payment against draft on arrival of goods in the foreign port, but there are other techniques available (*CW, Sept. 20*).

Many chemical companies do not make use of these possibilities for greater profits through tax savings, feeling apparently that the headaches involved in establishing and maintaining such separate export setups—and the assumption of the risks of shipment without payment in advance—are not worth the effort involved.

Many companies in the industry prefer to do business on a confirmed letter of credit basis rather than any other, particularly in view of the present situation in most countries of Latin America—where sight-draft collection is frequently several months late. Not many companies are willing to work on a consignment basis with their agents abroad, and most of them are reluctant to grant credit in any form. This of course does not promote trust and goodwill. It gives competitors from Europe, who are generally willing to extend more liberal credit, a great advantage.

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...As intermediates in the synthesis of other organic phosphorus compounds.

...As additives to lubricating oils, to serve as corrosion inhibitors, stabilizers, and antioxidants.

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...As stabilizers, plasticizers, and antistatic agents.

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DIALKYL HYDROGEN PHOSPHITES	Boiling Point	Specific Gravity	Flash Point, Cleveland Open Cup	Solubility in Water
DIMETHYL	72-3°C/25 mm	1.208	265°F	Soluble. Hydrolyzes.
DIETHYL	65-6°C/6 mm	1.079	195°F	Soluble. Hydrolyzes.
DIBUTYL	118-9°C/7 mm	0.995	250°F	Slightly soluble. Slowly hydrolyzes.
DI-2-ETHYLHEXYL	163-4°C/3 mm	0.937	330°F	Insoluble. Very slowly hydrolyzes.

All possess good thermal stability. Miscible with alcohol, ether, and most of the common organic solvents.

TRIALKYL PHOSPHITES				
TRIETHYL	65-8°C/24 mm	0.969	130°F	Slightly soluble. Hydrolyzes.
TRI-2-PROPYL	84-6°C/50 mm	0.914	165°F	Insoluble. Slowly hydrolyzes.
TRIBUTYL	118-21°C/7 mm	0.925	250°F	Insoluble. Slowly hydrolyzes.
TRIHEXYL	135-41°C/1-2 mm	0.897	320°F	Insoluble. Very slowly hydrolyzes.
TRI-ISO-OCTYL	161-4°C/0-3 mm	0.901	385°F	"
TRI-2-ETHYLHEXYL	163-4°C/0-3 mm	0.902	365°F	"

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Export-Price Policies

It can be said that it is a universal practice in the industry to make no special price concessions to the export market. All of the companies surveyed reported that their overseas quotations are the same as domestic prices, at least where the item is sold both here and abroad. In the case of foreign competition, however, some manufacturers seem willing to make "spot" concessions to keep a foothold in the market, but the majority still feel that it is wisest, in the long run, to maintain prices.

Some dumping by foreign manufacturers has been encountered in other countries. This may indirectly have been encouraged by the system, mentioned above, of allowing free use by individual firms of some fraction of the dollars earned. It permits the foreign competitor to make his profit on the "resale" of dollars, rather than on the sale of the merchandise itself. At the same time, he is establishing a market for himself for the future.

Although most companies still do not recognize the foreign market as sufficiently important to warrant equal standing with its domestic counterpart, some companies have recently started to allot a fixed minimum percentage of production to their export division. They can thus serve their overseas customers equally well in good times as in bad—provided, of course, that the need for a U. S. export license does not interfere.

Table II.

U. S. World Exports and Imports.

January—September 1952
(in millions of $)

	*Exports**	*Imports*
W. Europe	2,511	$1,422
E. Europe	—	30
Latin America	2,715	2,781
Canada	2,054	1,632
Far East & Oceania	1,576	1,482
Africa	443	480
Near East	222	102
TOTAL	$9,521*	$7,929

Table III.

Proportion Exported of Movable Goods Produced in the U. S.

(Exports as % of total.)

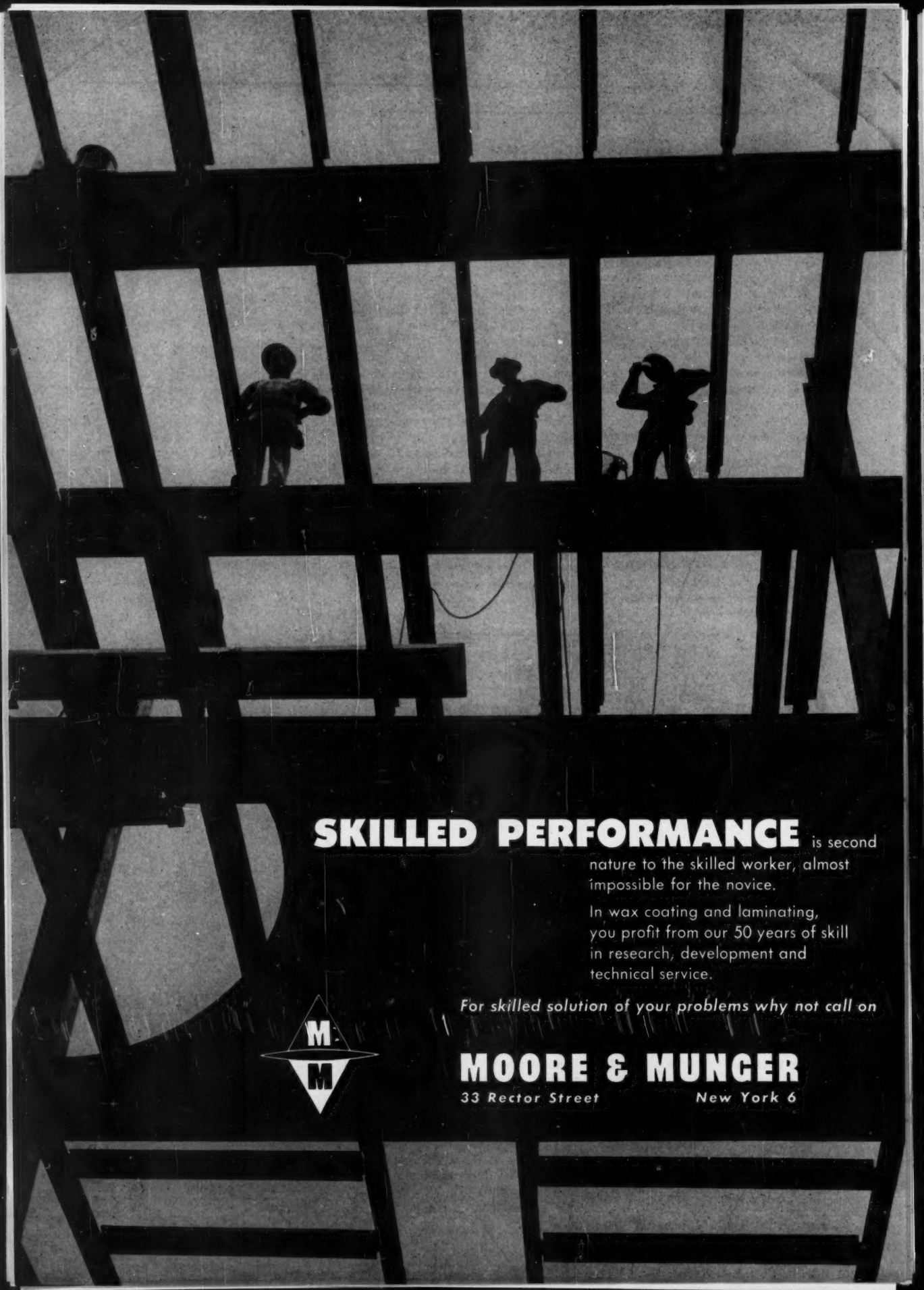
1937	7.6%
1939	7.5
1947	12.0
1948	9.1
1949	9.4
1950	7.0
1951	8.9

* Does not include nearly $1.8 billion in special category exports—Mutual Security Aid, etc.

In a Free World

Some of the facts developed by the chemical-export survey show that there has been a new realization throughout the industry that exports should no longer be neglected as they have been in the past. Many a company, however, continues to feel that the necessary effort is not worthwhile—at least not while the domestic market still shows signs of health. The inherent fault in this belief is that it disregards the fact that it takes time and experience to establish foreign outlets. They must be developed before they are needed, if they are to be effective.

The world market is, today, a sizable one. And as living standards continue to rise in many parts of the world, the need for more chemicals will make itself felt around the globe. But the chemical industries of other countries are more than willing to increase their share of the growing market. And this they will do unless the American chemical fraternity recognizes that this is part and parcel of the trend toward free trading in a free world: Those who have sown the seeds early in the fertile grounds of foreign markets will be the first to reap the harvest.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1953 Research Budgets:

A Happy Consensus

Did you have trouble getting your '53 budget recommendations approved?

"No. We got just about what we asked for."

How does this year's budget compare to that of the year just ended?

"Higher, about 13% on the average."

Will the higher budget permit you to do more research?

"Yes, but rising costs will take a big bite."

What's the largest distinct dollar item in your new budget?

"Salaries, both for raises and new staffers."

Will your new budget allow any long-range investigations?

"Yes, if not as much as all would like."

Do you feel the budget policies of your company are fair?

"Few gripes in view of business conditions."

If 1953 is a model for the shape of years to come, research directors in the chemical and process industries will soon be forgetting the verses of the "budget blues." For it's clear enough from the results of CHEMICAL WEEK's new year budget survey that the perennial refrain, this time, is conspicuous by its absence. Research directors, in general, are singing a different, more cheerful tune.

Most, for instance, report little or no difficulty in piloting their fiscal recommendations safely through management channels. On the bright side, comments ranged from a Gulf Coast research director's: "No trouble obtaining the money asked for 1953," to a Californian's: "Yes, we had some difficulty getting management to approve our budget, but after some persuasion we got just about what we wanted."

Of course, there are exceptions. One director of a large company's research bemoaned: ". . . considerable difficulty was experienced with management over the budget. Both the amount to be spent on reasearch and the nature of the research program were revised [downward]." This gloomy reply, however, is unquestionably in the nature of a minority report.

The majority opinion is, perhaps, best expressed by a paint company research director: "Management didn't really give us any difficulty in approving the budget. Although they are naturally trying to hold down costs, they didn't cut too many corners because they are convinced of the importance of the research and development end of the business."

As might be expected, research directors' general satisfaction with their treatment at the hands of top management can mean only one thing: Higher budgets in '53. How much higher was not revealed in all cases. But 13% (over 1952) probably would not be too far off the average. Straw in the wind: One research manager, whose recommended budget was slashed 80%, comes out with 5% more money for his division than he had last year.

More money does not necessarily mean proportionately more research. Most directors agree that their budget hikes will permit some increase of activity. And most are also agreed that this increase won't be of startling proportions. A research director in the Midwest, who received a 10% budget raise, tersely predicts for 1953: "Same level (as 1952) of research, costs more to do." His words are almost echoed by a colleague on the West Coast who reports: "The budget allows for just about the same amount of research we always do; the increase only offsetting rising costs."

A less pessimistic, but hardly glowing estimate is ventured by a research director of a fair-sized chemical firm who claims that probably two-thirds of his 20% budget increase will go into higher operating costs. Brightest report came from a nationally known chemical firm. Its story: Budget 20% higher than that of 1952; only 8% of this amount earmarked for mounting expenses.

There isn't a shadow of a doubt about the biggest dollar item in this year's research budgets. Salaries gets the nod. They were found to vary from a low of 50% of the budget to a high of 80%. The mean, however, appears to be in the vicinity of 65% to 75%. And a somewhat disturbing situation is pointed up in the comment of a pharmaceutical research executive. His gripe: "The high cost of skilled and semi-skilled labor is an even larger consideration than the salaries of the chemists."

Contributing, in larger measure, to the unrivaled prominence of salaries in the fiscal set-up is the continuing and pressing demand for more technical manpower. This state of affairs is nicely pointed up in the replies of a spate of companies. Typical is the

plaint of an East Coast research director: "The allocation for more technical men is by far the most important item in our salary budget. It's a familiar situation . . . Yes, it was the same last year."

From replies to the query: "Will your new budget allow any long-range work," it was evident that the majority of industrial management has overcome, to some extent, its old fear of investing in the intangible promise of scientific research. Most research directors have the money for long-term studies. How much, on the other hand, is the telling question.

High and Low: Answers range from "very little" to "considerable." Translated to figures, this would be, roughly, from 5% to 50%. Moreover, the distribution between these upper and lower limits tends to favor the large companies at the upper extreme with the smaller firms low men on the pole. At best, this is broad generalization. Conspicuous exceptions are not rare. For example, the director of research of a sizable chemical manufacturing organization confides: "All of ours is immediate applied research; we even find it hard to slip in a little developmental."

At the other end of the spectrum is the research director who reported 50% long-range work "the usual amount."

Far and away the overwhelming majority of research directors canvassed by CW thought the budget policies of their companies were fair. On the positive side of the issue, representative comments were:

• "We feel management is fair . . . give all they can to the research end considering the tax and business outlook for 1953. If, by June, taxes aren't cut and business is better than we expect, research might get additional dollars. But it's doubtful that any foreseeable conditions would result in a cut . . ."

• "Our company's budget policies where research is concerned seem fair to us. The budget will be reviewed quarterly to bring it in line with new research needs in the company—a practice of many years' standing."

• "The research department gets its fair share of the budget. The conservative nature of the projects authorized might be a criticism, but that would be more a criticism of management in general."

Of course, there were some gripes. Examples:

• "Management still sticks too much to trouble-shooting projects for its research department. Our 1953 budget estimate contained an increase in long-range projects, but management cut them back in favor of short-term projects more closely tied in with production. It's pretty tough to sell management on long-term development work."

• "In management's mind, of course, the company's budget policies are fair. However, I feel that management doesn't fully understand the needs of research . . . in that way is unfair."

The marked absence of beefs more vitriolic than these foreshadows a year of relative contentment for chemical and process industry research directors. Most, even now, are probably hoping their luck will hold out in '54.

•

All for Dacron: The Du Pont Co.'s $40-million Dacron polyester-fiber plant, nearing completion at Kinston, N. C., will eventually be joined by a proposed $3-million research laboratory. Scheduled for completion late in 1954, the structure will augment Du Pont's textile fibers department's technical division. It will house offices, laboratories and semi-works equipment for basic and exploratory research on Dacron. About 55 researchers will staff the new facilities.

Production at the Kinston plant should begin within two or three months. Dacron research currently is quartered in the Carothers Laboratory at the company's Experimental Station, Wilmington, Del.

•

Carbonyl Aid: Mercaptoacetic acid and β-mercaptopropionic acid are valuable reagents for the identification of carbonyl compounds. That's the import of research recently completed at New York University. The N.Y.U. investigators have developed techniques for preparing and titrating standard derivatives.

•

Vitamin Antidote: Researchers of Merck and Co. (Rahway, N. J.) have found that vitamin B_{12} acts as a swift antidote to cyanide poisoning. The Merck experiments have been confined to rats.

•

Expansion: A new laboratory and pilot plant are in the works for Permutit Co. (New York, N.Y.). According to the company, the $200,000 research expansion is part of a long-range growth program.

•

Coating Aid: Methyl glucoside is Corn Products Refining Co.'s (New York, N.Y.) newest offering to the protective coatings industry. A white, crystalline, non-hygroscopic powder, the polyol has a future in the preparation of synthetic drying oils, tall oil esters, etc. "When esterified with linseed oil fatty acids," reports Corn Products Refining, "the resulting oils are rapid-bodying and fast-drying." And, the company says, "the finished varnishes dry more rapidly to harder films with better adhesion and superior or equivalent alkali and water resistance than varnishes made from similar . . . synthetic drying oils." A combination of methyl glucoside and glycerol or pentaerythritol is recommended for the preparation of tall oil esters.

•

Clearing the Way: At its recent annual budget meeting, the board of directors of Bituminous Coal Research, Inc. (Pittsburgh, Pa.), authorized what it calls an "industry-research laboratory." The organization has revealed its intention of leasing a building in Columbus, Ohio, to house facilities for design, development and pilot-plant testing of equipment and processes investigated under BCR's general research program. "Gasification, carbonization and chemicals from coal" is one of the four major divisions of BCR's 1953 plans.

•

Chemical Type: Changeable type bars that extend the range of electrical typewriters to chemical, mathematical and other scientific symbols have been developed by International Business Machines Corp. and Atomic Energy Commission. Originally requested by Oak Ridge's Technical Information Service, the new type bars are easily inserted and removed from IBM electric typewriters.

•

Quick Action: Making his words (*CW, Dec. 13*) come true, Selman Waksman has revealed the isolation of an antibiotic showing marked antifungal activity. Tagged Candicidin, the new antibiotic is being primed for clinical evaluation.

•

Eye On the Future: "The carrying out of basic or long-term research" is the avowed purpose of the newly organized organic research department of Sherwin-Williams, Inc. Bolstering the chemical end of the company's activities, the new research division will concentrate on dye intermediates, organic pigments, etc.

•

Probing the Complex: Bersworth Chemical Co. (Framingham, Mass.) has just passed the word of the new Bersworth fellowship in chelate chemistry. It's open to accredited graduate students, provides $3,500 in advance. Purpose: "To encourage research on metal chelates and on the control of cations in solution in the fields of pure chemistry and . . . industry, agriculture and medicine."

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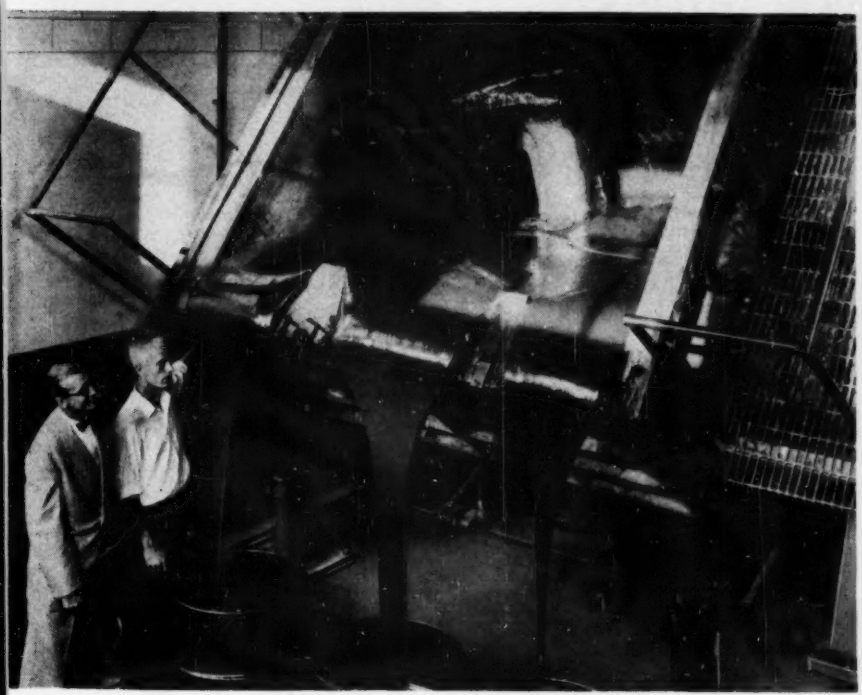

Color Blenders: Smallest and Largest— Both Alike

THIS STUDY IN CONTRASTS is provided by color blending machines in Hilton Davis' Cincinnati plant. The 21-ton one (above) is billed as the biggest color blending machine in the world. It can mix 1,500 gal. of flushed colors. The smaller one (right) weighs only a half a ton, is used in experimental work. It is employed to develop techniques for the production of flushed colors for the printing ink and paint industries. Watching the big one unload into 50 gal. drums are Nelson S. Knaggs, vice president in charge of sales and Edward Kornreich, department manager of the pigment division. The researcher operating the smaller model is Anthony Bambach of Hilton-Davis' pigment research division. He's trying out a method that may later be used in the 21-ton machine.

Process Feud

There was dissension in the ranks at the convention of the American Farm Bureau Federation in Seattle last month. They all agreed that development of Idaho phosphate deposits for fertilizer is an essential step for Western agriculture. But they couldn't agree on whether the needed phosphoric acid should be wet process or electro-arc-furnace acid.

M. L. Kastens of the Stanford Research Institute (Stanford, Calif.) said that engineering studies showed that phosphate fertilizers can be developed more economically with sulfuric acid than with electricity.

Making the case for the electric-arc-furnace process was G. W. Bunting, manager of the Central Farmers Fertilizer Association. He cited figures to prove his point that the electric furnace can turn out a higher concentrate of phosphates at a lower cost.

If that was the answer, said G. E. Gale, vice president of the Idaho Power Co., his firm could supply enough power to process the deposits if it were permitted to build and operate a low-head dam at Hells Canyon and four other dams on the Snake River.

But Charles Baker, manager of the Pacific Supply Cooperative (Walla Walla, Wash.) made it clear that he was in favor of the government's building its proposed high dam at Hells Canyon. Its capacity, he said, would be greater than the five dams the power company would put up.

Two for the Money

If you are one of the experts who bet against the proposed (CIW, Mar. 3, '51) Noranda Mines project to convert its huge pyrites deposits into elemental sulfur and sulfur dioxide through a new process, you can start paying off. The firm has signed an agreement with North American Cyanamid, Ltd., whereby the latter will use the sulfur dioxide to make acid at its Welland (Ont.) plant, next door to Noranda's a-building pyrites plant.

Signers of the agreement, F. S. Washburn, president of NACL and Noranda Mines Vice President Roscoe, look on the contract as profitable arrangement for both companies. Noranda which had previously sold its pyrites directly to acid producers, will now sell sulfur dioxide to NACL, have elemental sulfur for sale in a sulfur-starved Canada. And NACL, which had previously imported sulfur from the U.S., will now have a sulfur dioxide source in its backyard.

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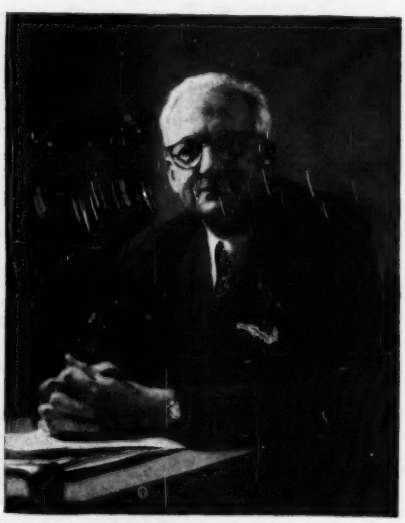
NORANDA'S ROSCOE: A Canadian twist . . .

But the deal carries significance for the rest of industry, too, for it marks the first attempt to get elemental sulfur from pyrites. Normally, when you want to put pyrites to work as a raw material for acid, you roast it to get sulfur dioxide. The only trouble with that: There's a limit to the distance you can haul the dioxide, so you must put your acid plant near the site of the roaster.

But one of the two sulfur atoms present in a molecule of pyrites can be knocked off by distillation. That's the principle on which Noranda's process is based. It was known—and recognized—by the Chinese at least a hundred years ago. Not until 1945, however, when Battelle worked it into



NACL'S WASHBURN . . . on an old Chinese process.

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THIS UNIT CAN SAVE YOU *MANPOWER* AND *DOLLARS!*

Many volume users of Caustic Soda have realized substantial savings by switching from 50% to 73%.

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Take the case of one of Columbia-Southern's customers.

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Furthermore, the manhours required to handle the unloading were considerably reduced because fewer cars were needed to supply the same tonnage of Caustic.

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Columbia-Southern's technical service staff will be glad to make recommendations regarding the cost and location of an unloading unit as well as assist with the unloading of the initial shipment.

Shipments of 73% are made in Columbia-Southern's specially designed tank cars that have a patented lining which prevents metallic contamination in transit. Also, these cars have the fusion welded tank, improved insulation, and many other features.

Write today for futher information on how you can save with 73% caustic!

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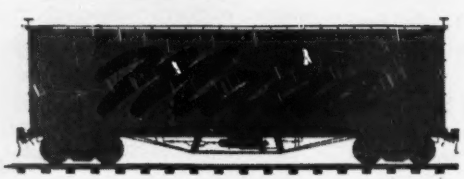

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PRODUCTION . . . . .

a laboratory process, did it gain any recognition here as a source of sulfur. Noranda took the Battelle process, has piloted it since 1947.

This is how it works: A thick bed of pyrites on a moving hearth is ignited. Heat from the oxidation distills off elemental sulfur from the layer below and leaves ferrous sulfide. That in turn is oxidized to sulfur dioxide and iron oxide. To assure a maximum output of sulfur, the amount of air passing through the bed must be carefully controlled.

The process still demands an adjacent sulfuric acid plant,* and that's where NACL fits in. The dividend from the process is a high grade oxide sinter which should find a ready market in Canadian steel mills.

As Noranda sees it, the project will result in an annual saving for Canada of 54,000 tons of sulfur. It will treat 400,000 tons of pyrites concentrates a year, from which will come 50 tons of sulfur, 250 tons of acid, and 240 tons of sinter a day.

More important to U. S. producers are the prospects of getting sulfur from pyrites. For sooner or later, pyrites is destined for a bigger role in the production of acid. And the chance of getting almost half the sulfur content out as elemental sulfur could make it sooner.

EQUIPMENT . . . .

Electronic Painting: Scientific Electric (Garfield, N.J.) will soon market an ionic spray gun for use in a variety of painting applications. The paint will be electronically charged within the spray apparatus.

•

Licensed: U.S. Department of Agriculture has just licensed the Vern E. Alden Co. (Chicago) to use a new cottonseed extraction process developed at the Southern Regional Research Laboratory. The claims for the process: greater extraction efficiency. Possible applications: for food, chemical, soybean and other agricultural extractions.

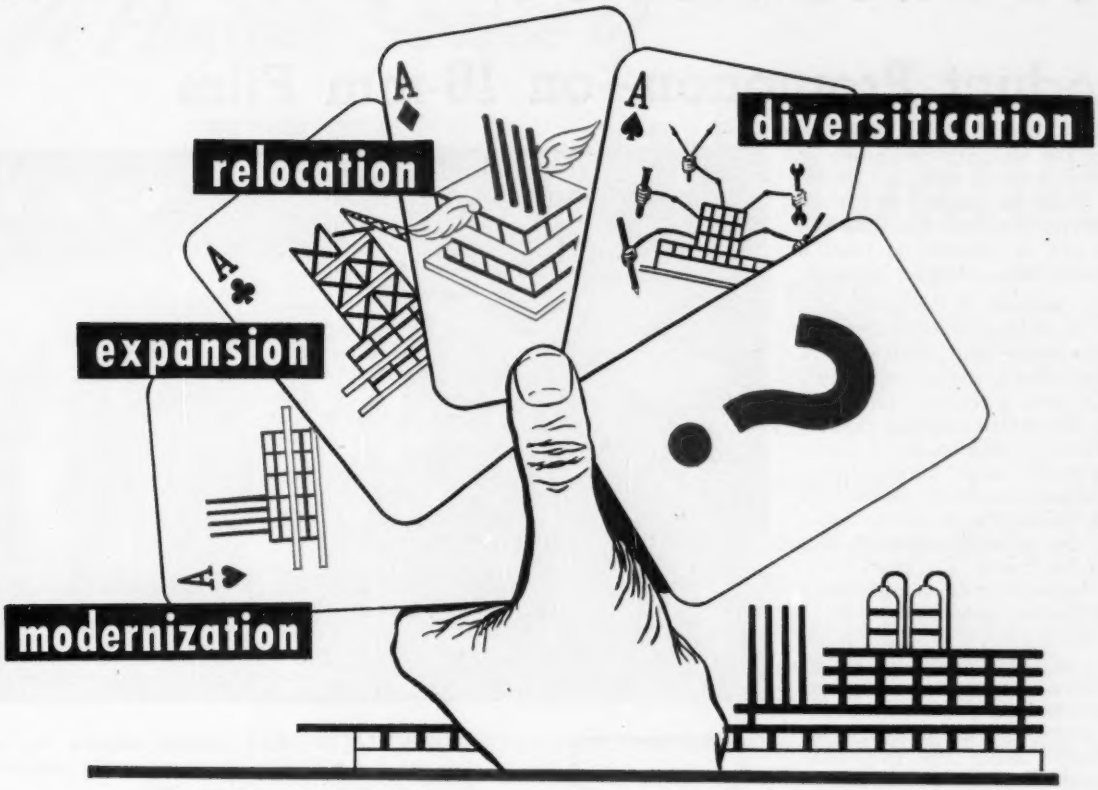
•

Productive Maintenance: That will be General Electric's theme at the 4th Plant Maintenance Show in Cleveland, Jan. 19-22. Featured among the G-E exhibits will be a new three-piece gear motor.

•

Added: To Brammer Corp.'s (New York) "V" Link Belting have been added two new features. The first is a simplified size identification system; the second, increased link flexibility resulting from natural rubber.

* Although presumably the Chinese didn't think so.



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Product Promotion—on 16-mm Film

One of the most versatile pieces of artillery in the sales manager's arsenal is the "business movie." It can be used to zero in on selective audiences —or it can be adjusted to cover a wide range with a shotgun approach.

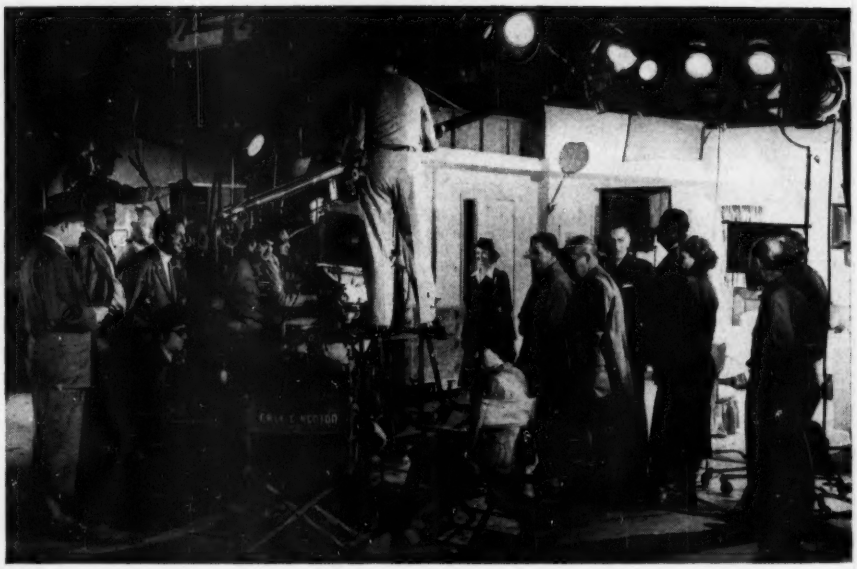
A prime example of the latter technique is making news this week. Effective immediately, 60,000 clubs, churches, schools, and colleges—nearly anybody with a 16-mm. projector—will be able to take a ride on a "Flight to the Future." Bakelite Co. is releasing its "plastics show" for distribution to all comers, free of charge, through Modern Talking Picture Service (New York), the same organization that handles Du Pont's "Du Pont Story" and a dozen other chemical-industry films pitched at the general public.

As the industry's products reach deeper into the everyday life of its ultimate customers, broad-gauge films are becoming more commonplace. (One major producer of business films estimates that over 20% of his productions now have a chemical slant.) More so than most industries, chemical makers must explain their products to the public.

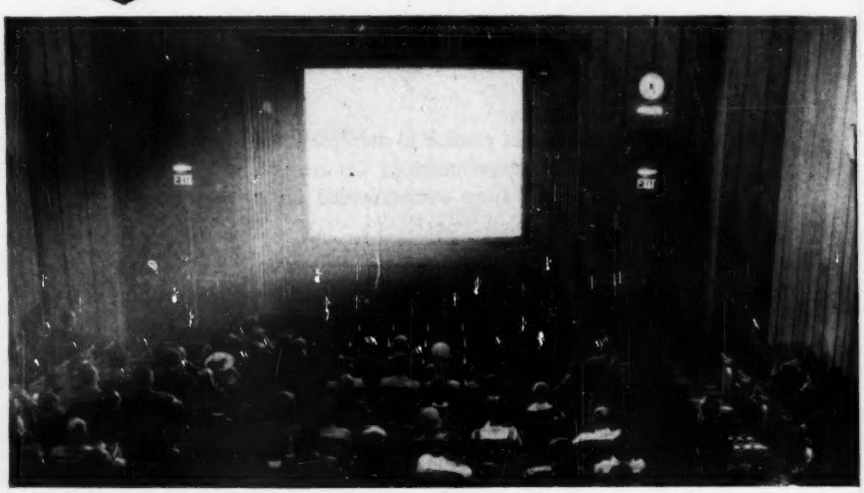
But not all these selling messages are designed merely to build basic good will. Many, if not a majority, are practical working tools for aggressive sales departments. They range—taking a few recent examples all the way from Dow's "Styrofoam," a sharply edited motion-slide film aimed directly at insulation engineers, to Merck's "Protecting Poultry Profits," which is a general farm-management show that adroitly includes an effective sales talk on sulfa additives for poultry feeds.

There is also variety in the way chemical firms handle such projects. A survey of representative companies indicates, however, that broad-scale "epic" types are in the bailiwick of the public relations department, while the down-to-earth "selling" pictures are produced by the sales group involved—usually working through the company's advertising agency.

Moreover, independent movie producers are a myriad and hotly competitive group; consequently it is impossible to determine the chemical industry's exact investment in business films. But there's agreement that it is an appreciable and growing segment of the yearly promotional bill.



CHEMICALS IN HOLLYWOOD: Bakelite "on set" *(above)* is a preliminary to pre-selling the consuming public on the industry's end products.



Hollywood Air: How much do these films cost? That's the first question neophytes ask when considering the possibilities of putting their company's products onto film. It's a difficult question to answer; it all depends on the type of treatment desired.

The preliminary estimates can vary between $500 and $2,500 per minute. The variables include: color *vs.* black-and-white; sound or silent film; amount of animation, cartoons, and the like; size of film (16-mm. or 35-mm.); and the general content. Hollywood stars in the leading roles will certainly cost more than company officials or plant workers.

But the dangers of skimping on any of these factors has been summed up by Charles Curran* in his "Handbook of Motion Picture Technique for Business Men." Says Curran: "As in everything else, in motion-picture production you get exactly what you pay

* Times Square Productions, Inc.

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Spec. Grav. 20°/20° C.	1.080-1.085
Acetic Anhydride, Min. %	97.5
Reducing Test	Pass Permanganate Test

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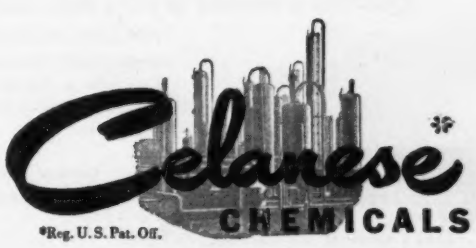
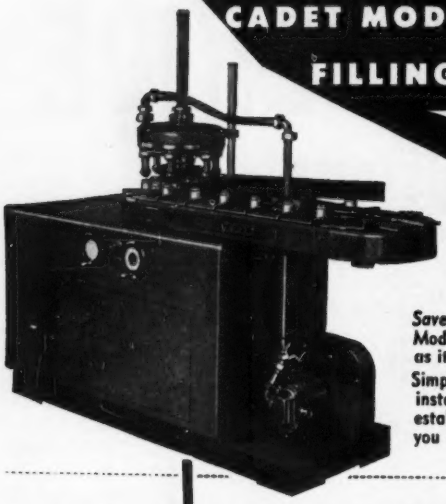


*Reg. U. S. Pat. Off.

IN goes the Kiefer CADET MODEL VARI-VISCO FILLING MACHINE



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for. In no other field, however, does a cheap product look as shoddy as it does on the screen. Skimpy sets, amateurish acting, slackness in editing, poor sound quality, make-do photography, and inept direction—any one of these factors which may stem from a too-low budget, can make the picture worthless."

Bakelite, in making its "Flight to the Future," took no chances on such an outcome. Its production costs were near the top of the range. Although this movie was made in Hollywood,

SOLVAY

Trade-Marks SOLVAY and S Registered U.S. Pat. Off.

OLD

A Triangle Makes . .

What is a trade mark worth? Can Du Pont put a price tag on its oval, or Monsanto on its Big M? Does the time eventually come when the marks should be revised to suit current modes? These are the questions which faced Solvay Process. Its answer is apparent this week as it swings over to a new symbol; from now on Solvay hopes to be identified by the "Solvay Triangle" (*see upper right*).

As this Allied Chemical & Dye* division's imaginative director of advertising, Harry Todd, can testify, it is no quick trick to make such a switch. There's a wide gap between theory and practical application; months and years of effort can go into the development of a seemingly simple device. Here are the key considerations—and some of Todd's now-surmounted problems:

• **Recognition.** Symbols that have been used for a great number of years acquire a degree of consumer identification which cannot be lightly discarded. In Solvay's case, the company had two such insignia. First,

* Other Allied notes: (1) The six-month-old Nitrogen Division has recently adopted a circle-silhouetted trade mark whose green upper half is said to "symbolize the healthy growth made possible by our fertilizers." (2) The parent corporation—in its first series of corporate ads—is proclaiming that "'A' stands for Allied."

substantially equal facilities can also be used in such cities as New York, Chicago, and Detroit. One major business-film producer has all of his studios in the latter city.

Mountain Mover: The main economic impulse behind the use of films, says one proponent, is the ease with which they "move the mountain to Mohammed." It gives an opportunity to present a complicated subject in a clear, understandable form. The complex chemical industry seems to be buying that premise.

NEW

. . A New Silhouette

there was the name "Solvay." Printed in heavy capital letters, it has stood for soda ash and related products since the early 1880's.

Next, there was the S-entwined anchor. Anchors were generally popular trade-mark ingredients during the nineteenth century when the company adopted the device.

The new design had to preserve the consumer recognition symbolized by both the anchor and the familiar typography of the name.

• **"Silhouette."** With company traditions thus determining the major components of any new Solvay mark, Todd's first problem was that of fitting them into an outline which, in itself, would serve as an identifying mark. This "silhouette" is often the most important part of a distinctive design (e.g., Pennsalt's Quaker keystone).

His survey of all well-known company symbols—especially those within the chemical-industry fold—indicated that circles, ovals, diamonds and the like were already crowded with chemical names. But inverted triangles were strangely scarce.

The result: Solvay decided to move into the less crowded arena.

• **Readability.** Having decided to incorporate its symbols into a triangle,

beta-Diethylaminoethyl Chloride Hydrochloride

beta-Dimethylaminoethyl Chloride Hydrochloride

beta-Dimethylaminoisopropyl Chloride Hydrochloride

For your antispasmodic, antihistaminic, or analgesic agents

Michigan Chemical is the foremost producer of these important pharmaceutical intermediates: DEC for your antispasmodics, DMC for your antihistaminics, and DMIC for your analgesics. All three are used for synthesis in a wide range of other pharmaceuticals, too. When you want prompt and dependable shipment of uniformly pure materials, write, wire or call Michigan Chemical Corporation.

MICHIGAN CHEMICAL CORPORATION
Saint Louis, Michigan
SALES OFFICE: 230 Park Avenue
New York 17, New York

BASIC MANUFACTURERS OF INDUSTRIAL, PHARMACEUTICAL, AND AGRICULTURAL CHEMICALS

n-BUTYL CHLORIDE and 2-ETHYLHEXYL CHLORIDE

are convenient, economical alkylating agents

FOR USE IN THE SYNTHESIS OF:

n-Butyl Chloride and 2-Ethylhexyl Chloride are water-white liquids with mild odors. They are solvents for oils, fats, and waxes. n-Butyl Chloride is a valuable vermifuge in veterinary medicine.

essential oils
pharmaceuticals
dyestuffs
oil additives
rubber chemicals
plasticizers
insect repellents
stabilizers for synthetic resins

READILY AVAILABLE in commercial quantities

For samples, prices, and information, call the CARBIDE office near you.

CARBIDE AND CARBON CHEMICALS COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC

30 E. 42nd St., New York 17, N.Y. Offices in Principal Cities
In Canada: Carbide and Carbon Chemicals, Limited, Toronto

Help Wanted . . .

for the over-burdened chemical executive!

How would you like to get out from under the mass of printed material showered down on you in these busy days? How would you like to get all the vital news of your industry condensed between the covers of one interesting publication?

That's what CHEMICAL WEEK offers. A complete information service for the busy chemical executive, written in crisp, straight-forward, non-technical style, to cut your reading time and increase your grasp of significant news and trends.

No longer is there need to wade through dozens of magazines each week to sift out the chemical news you must have for the successful operation of your business. You can have all the important news, happenings and trends—and you can have them FIRST—with CHEMICAL WEEK, the leading business-news magazine of the chemical process industries.

You can get 52 news-packed issues—including the famed CHEMICAL WEEK Buyers' Guide, published in the Fall of each year,—for only $5. Fill in and mail the coupon below. We'll start service to you with the next issue.

Chemical Week
330 W. 42nd St.,
New York 36, N. Y.

Yes, enter my Chemical Week subscription for one year at $5*. ☐
☐ I will pay when you bill me. ☐ I enclose remittance.
☐ 3 years for $10* or ☐ 2 years for $8*

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* Above rates are for U. S. and U. S. Possessions ONLY.
Canada: $6 ☐ 1 year....$10 ☐ 2 years....$12 ☐ 3 years.
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Other Countries: $25 ☐ 1 year....$40 ☐ 2 years....$50 ☐ 3 years.

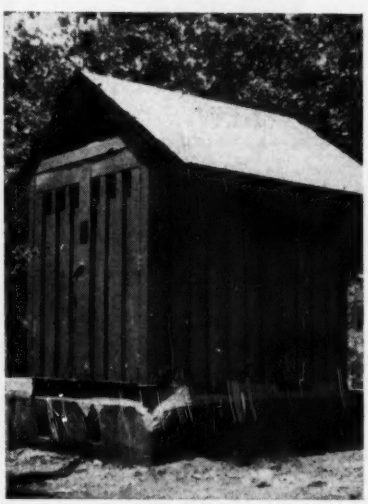
DISTRIBUTION . . . .

Solvay then proceeded to wade through literally hundreds of artists sketches showing various combinations of the components. The objective: a quick-impression, indelible image.

Over the months, these sketches stabilized into the present design. The triangle's corners were softened; the anchor—in the inverted vertex—was displayed as white on black; a basic color of blue was selected, subject to change in special situations.

Quick Glimpse: The new escutcheon appears this week in Solvay's advertising and on a few package labels. During the coming months it will spread—as the company revises its entire packaging pattern—to all bags, drums, trucks, and even tank cars. Stationery, office doors, calling cards, contracts—they will all be redone.

It may take years, but the ultimate test for the new mark, says Todd, will come if a customer—riding on a train while a line of freights flashes by—can catch a triangular glimpse and say, "There goes a Solvay car."



Dynamite Shelter

DRAVO CORPORATION's Transportainers—275-cubic-foot steel boxes designed for ocean commerce—are finding a land-locked use as portable dynamite containers. With a simple roof overhead, the boxes serve as handy, safe storage vaults for on-the-job requirements. Illinois Powder Manufacturing Co. is given the credit for dreaming up the idea. Formerly the company had to build temporary structures near large building projects, oil-well exploration operations, and the like.

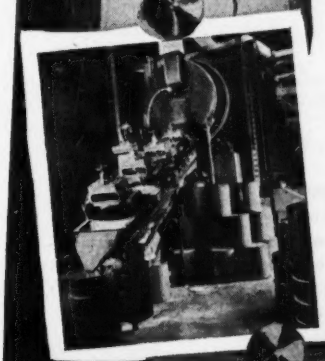
In their normal usage, Dravo's containers are meant to cut down on damage and pilferage during dock-side loading of overseas freight.

• Davison Bulletin •

Check for application

AVAILABLE FOR THE FIRST TIME

Organic Silicofluorides



Davison's Research and Development Department has devised a method of commercially producing a series of silicofluorides which have previously been known only as laboratory curiosities. Now available:

Methylamine Silicofluoride ($C_2H_{12}N_2SiF_6$)
Dibutylamine Silicofluoride ($C_{16}H_{40}N_2SiF_6$)
Ethylhexylamine Silicofluoride ($C_{32}H_{72}N_2SiF_6$)
Aniline Silicofluoride ($C_{12}H_{14}N_2SiF_6$)
Rosin Amine Silicofluoride ($C_{56}H_{68}N_2SiF_6$)
Morpholine Silicofluoride ($C_8H_{20}N_2O_2SiF_6$)

Preliminary use research has led Davison's technical representatives to believe that there are many varied applications for these products.

The properties of the materials vary widely. The molecular weight is from 206 to 719; fluorine content 18.2% to 55.17% and pH in 5% water solution, 2.8 to 4.2.

For full chemical and physical properties write for Product Data Sheet on Davison's Organic Silicofluorides, today.

Anti-Blocking Agent

Davison now has available a series of high quality, uniform fine sized silicas. The amorphous form of silica possesses unique characteristics when compared to crystalline silicas, e.g. sand. Silica gel, a highly porous form of amorphous silica, characteristically has a large pore volume and surface area. For example, when divided into fine particles less than 20 microns, the porous high surface area characteristics continue to exist, making the product specific for a wide variety of special applications. The product is white in appearance and completely uniform in chemical and physical characteristics.

Commercial forms of silica gel available differ primarily in pore size, surface area, and apparent bulk density. These differences, in addition to the variations produced by surface treatments and particle sizing, have resulted in a series of finely divided silicas adaptable to diversified uses. Many of these grades are now available for anti-blocking and flatting plastic sheeting.

Mail coupon for complete information, chemical and physical characteristics, and suggested applications, or contact your Davison Field Service Engineer.

FREE Literature Available On Method Of Determining Fluid Catalyst Particle Size

An analytical method for ascertaining the size distribution of either a fresh or used catalyst developed specifically to serve requirements of the industry. For your free copy, use the coupon.

Progress Through Chemistry

THE DAVISON CHEMICAL CORPORATION

Baltimore 3, Maryland

Producers of:
Catalysts, Inorganic Acids, Superphosphates, Phosphate Rock, Silica Gels, and Silicofluorides. Sole Producers of Davco Granulated Fertilizers.

Please send me Product Data Sheets on

- ☐ Organic Silicofluorides
- ☐ Fine Sized Silicas
- ☐ Method of Determining Fluid Catalyst Particle Size

Name.....Title.....

Company.....

Street.....

City.....Zone....State.....

PRODUCT CONTROL THROUGH INFRARED ANALYSIS

Number 8 *of a Series of Data Sheets for Better Process Control from The Perkin-Elmer Corporation, Manufacturers of Infrared Spectrometers, Flame Photometers and Electro-optical Instruments.*

PROBLEM:

Analysis of mixtures containing five different C_{10} aromatics.

PLANT:

Developed by Monsanto Chemical Co., Texas City, Texas.

SOLUTION:

Infrared Analysis—Method is briefly as follows:

Point readings taken at five analytical absorption bands and at three wavelengths characterized by low absorbancy for all components and by relative nearness to the analytical wavelengths to cancel out absorbance of the cell. The results are calculated according to Formula 1, right.

INSTRUMENTATION:

Perkin-Elmer Model 12-C Spectrometer, rock salt optics.

DISCUSSION:

Other methods of analysis proved to be either too difficult or time consuming. The infrared analysis was designed to be rapid and accurate with maximum simplicity of execution.

Complete analysis including computation for the five components can be done in about 45 minutes with an average absolute error of 0.5%, comparing favorably with similar reported work.

REFERENCE:

Anal. Chem., 23, 3, (1951).

Formula I

$$A = \log \frac{I_0}{I} = K\,cd$$

Where A = absorbancy
K = absorbancy coefficient
c = concentration
d = cell length
I_0 = intensity of incident radiation
I = intensity of transmitted radiation

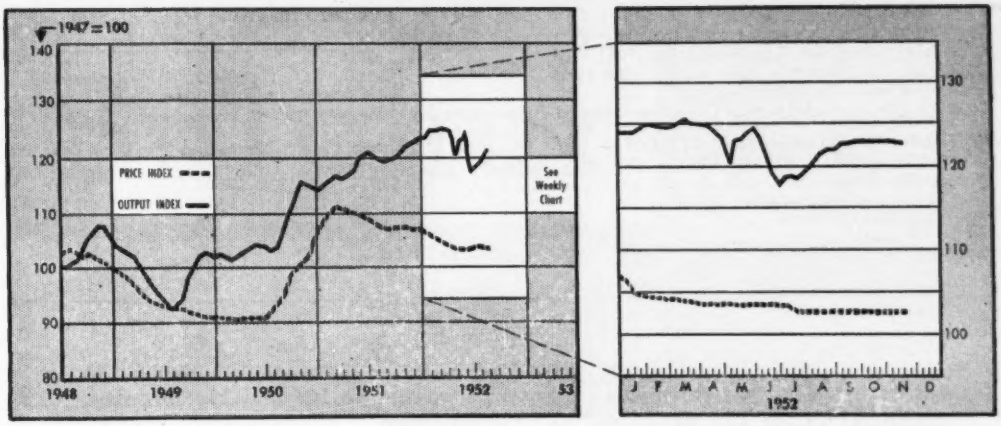
Model 12-C Spectrometer at Monsanto's Texas City plant.

Let us discuss your Product Control Problems with you. Write The Perkin-Elmer Corp., Dept. 32, Norwalk, Conn.
Southern Office: Lee Circle Bldg., New Orleans, La.

PERKIN ELMER

ARE YOU RECEIVING INSTRUMENT NEWS?

This 8-page quarterly brings you the latest developments in electro-optical instrumentation as well as their application to research and process control.



CW Index of Chemical Output—Basis: Total Man Hours Worked in Selected Chemical Industries
CW Price Index—Basis: Weekly Prices of Sixteen Selected Chemicals

MARKET LETTER

This month will see an upsurge in the movement of chemical commodities headed for many CPI plants. Here are three prime reasons underlying the spurt in market activity:

• Year-end inventories intentionally depleted for accounting purposes—standard practice in states which impose a tax on such end-of-the-year plant-held stocks.

• Action of astute purchasing agents who snapped up in December—for January delivery—the several chemicals sporting temporarily lowered December tags.

• Generally optimistic outlook for 1953: Many CPI prognosticators see little danger of a serious slump this year.

Zinc trade fears were allayed when the British Ministry of Materials recently announced its method for disposing of its large zinc stocks—reportedly some 150,000 tons.

Metal dealers recalled the depressing effect on world lead prices when that metal was turned over to private trading (*CW Market Letter, Oct. 15*), were apprehensive lest Britain pull a repeat performance by also indiscriminately dumping its government-owned zinc stocks on the market.

But with free trading of zinc scheduled to begin in London this week, the British Government assures traders that its stocks will be used only to insure prompt delivery when no other supplies are available. A large block (24,000 tons) will be sold to producers for marketing over a seven-month period.

Meantime U.S. zinc consumers are nibbling at inventories, marking time until the effects of the British moves become apparent on zinc prices in this country.

London, however, continues to exert pressure on U.S. lead prices. The market here is very sensitive to fluctuations abroad. Last week's ¼¢ upping of pig lead schedules (to 14¼¢/pound) is directly attributed to a stronger British market.

WEEKLY BUSINESS INDICATORS	Latest Week	Preceding Week	Year Ago
CHEMICAL WEEK Output Index (1947=100)	125.7	125.3	125.0
CHEMICAL WEEK Wholesale Price Index (1947=100)	103.0	102.5	106.5
Bituminous Coal Production (daily average, 1,000 tons)	1,633.0	1,658.0	1,789.0
Steel Ingot Production (1,000 tons)	2,220.0 (est.)	2,133.0 (rev.)	
Stock Price Index of 14 Chemical Companies (Standard & Poor's Corp.)	260.2	260.1	240.4

MONTHLY INDICATORS—EMPLOYMENT—AVERAGE HOURLY ESTIMATES	Latest Month	Preceding Month	Year Ago
Non-durable Goods	$1.715	$1.705	$1.626
Chemicals and Allied Products	1.563	1.549	1.507
Paper and Allied Products	1.734	1.714	1.644
Rubber Products	1.642	1.822	1.715
Petroleum and Coal Products	2.160	2.148	1.997

Lead pigments are also boosted. New prices at the moment: Dry red lead 17¢/pound (c.l.), 18¢ (l.c.l.); litharge 16¢ and 17¢; orange mineral 19.35¢ and 20.35¢ c.l., l.c.l., respectively.

Producers of coaltar benzol are experiencing pressure of a different sort—the comfortable pressure from consumers competing for benzol production. Some makers happily report all of their output moving along as fast as it is made.

Although prices are now hovering between 30¢-38¼¢/pound (depending on shipping points), chances are that a general price increase is on the way. Reason: supply, demand factors. Decreasing supply of imported benzol, reluctant demand for relatively higher-cost petroleum materials add up to an increasing demand for available coaltar benzol.

Uncle Sam continues to blot up a large share of toluol production. Stepped-up aviation programs, for instance, require hefty supplies of high-octane gas (one important military toluol outlet), which leaves civilian consumers taking a back seat to government directives.

There should be some relief for civilian users by April of this year, however, when Shell Oil's new platformers in Houston, Tex., go on stream. But here, too, the military will get first crack at the toluol output.

On the other hand there's more than one major influence behind the higher glycerine tags. Main factors, though, are high cost, scarcity of crude glycerine stocks.

Big boost in consumption of quick drying alkyd-resin paints for volume business in TV, refrigerators, autos has also upped glycerine requirements—as has expanding government nitroglycerine production.

Current price schedules on refined grades of glycerine after the recent nickel-per-pound hikes: dynamite grade, 43½¢; high-gravity, 43½¢/pound; yellow distilled, a shade under 43¼¢/pound—all on a tank-car basis. USP, CP grades are selling for about 44¢/pound and refined BP grade (98% pure) is pegged at about 45⅜¢—a 5⅛¢ a pound increase over previous schedules.

SELECTED CHEMICAL MARKET PRICE CHANGES—Week Ending December 29, 1952

	Change	New Price		Change	New Price
UP					
Dry red lead, 95% bbls., c.l. frt alld.	$ .0025	$ .17	Glycerine, refined, BP., 98%, drms.	$ .05125	$ .45375
DOWN					
Toxaphene, drms., c.l. Wks.	.06	.17	Tung oil, dom., tanks, mills.	.0025	.315

All prices per pound unless quantity is stated.

Sulphur

Molten Sulphur flowing into the storage vat

Thousands of tons mined daily, but where does it all go?

Look around you in any grocery store and what do you see — canned goods of all kinds! Soups, vegetables, fruits, berries! Believe it or not, you're looking at merchandise that consumed a lot of Sulphur in the making.

Tin cans are made of tin plate. Tin plate is made of sheet steel. Sheet steel is made with the help of sulphuric acid—pickling, as they call it, the process that removes scale preparatory to plating. In 1951, the sheet division of our great iron and steel industry is estimated to have consumed 140,000 long tons of Sulphur in the form of sulphuric acid. That in itself makes quite a dent in our supplies of Sulphur. Add to this almost as much more for treating wire rod, plate, strip, bars, etc., and you can see that to make finished steel, regardless of form, the iron and steel industry must use lots of Sulphur in the form of sulphuric acid.

Right here is an excellent example of the interdependence of all of our industries. To produce steel requires a lot of Sulphur. To produce Sulphur and other mined products requires a lot of steel. This interdependence of industries is one of the country's sources of strength.

Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N. Y.

Mines: Newgulf and Moss Bluff, Texas

GLUCURONOLACTONE

now offered in

COMMERCIAL QUANTITIES

Glucuronic Acid is an important structural constituent of essentially all fibrous and connective tissues in animals, and is present in low concentrations in normal blood and urine. It is therefore of vital interest to investigators concerned with normal or abnormal biological processes.

To date there is very little knowledge concerning the utilization of ingested or injected preformed Glucuronolactone, primarily due to the limited amounts of material which have heretofore been made available by expensive and tedious biosynthetic procedures.

Now, however, we are supplying *commercial* quantities of Glucuronolactone, produced synthetically from D-glucose. Our survey of current literature on Glucuronolactone is now in booklet form. Send for *your* copy today.

Chemical Division

CORN PRODUCTS REFINING CO.

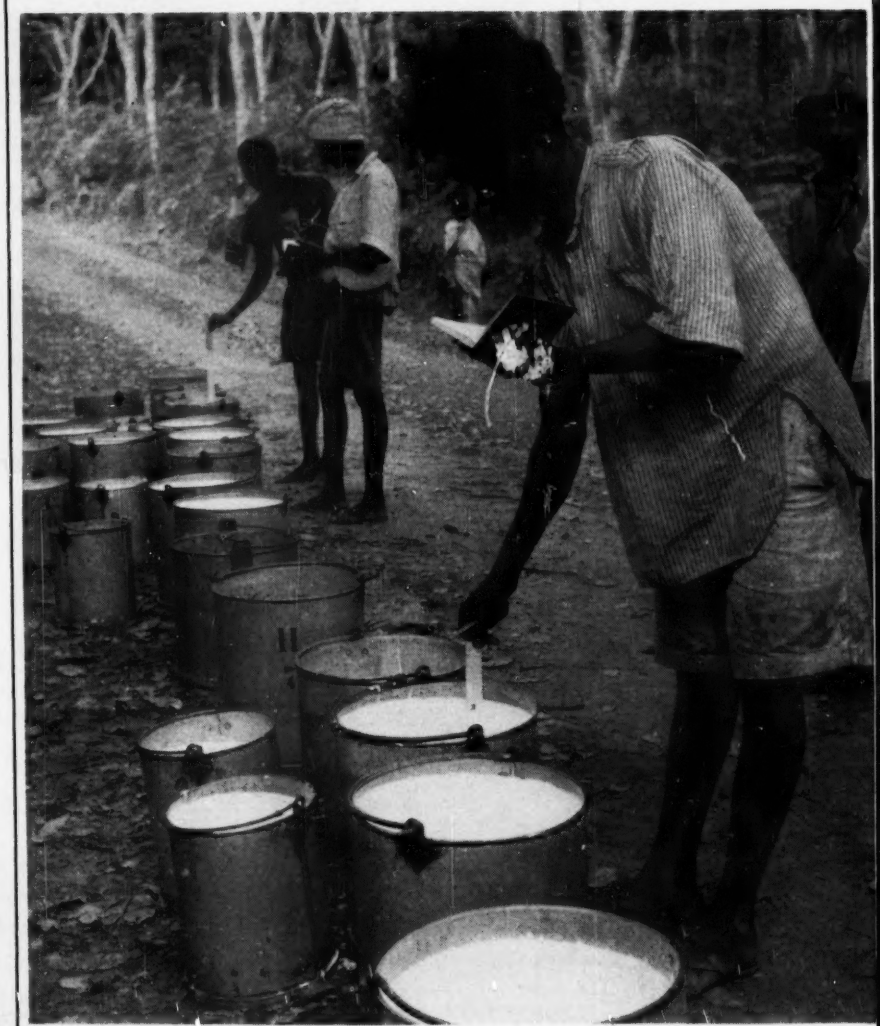
17 BATTERY PLACE • NEW YORK 4

His business paper . . . of course

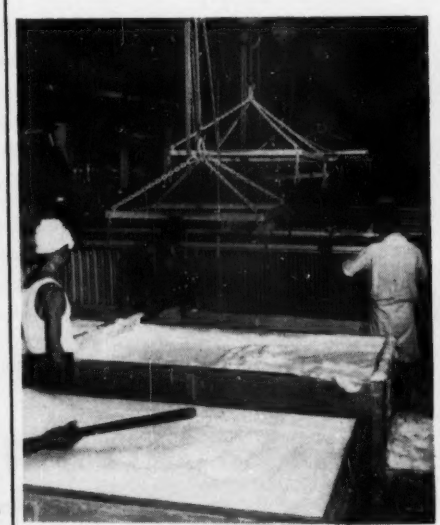
No man who takes his job seriously takes his business paper lightly. The **Best Informed Men in your Field** read every issue . . . straight through. They can't afford not to. Matter of fact, who can? You *need* the continuous touch with facts, news and "how-to" that only your business paper provides. Cover-to-cover reading makes *you* one of the **Best Informed Men in your field,** too.

Chemical Week

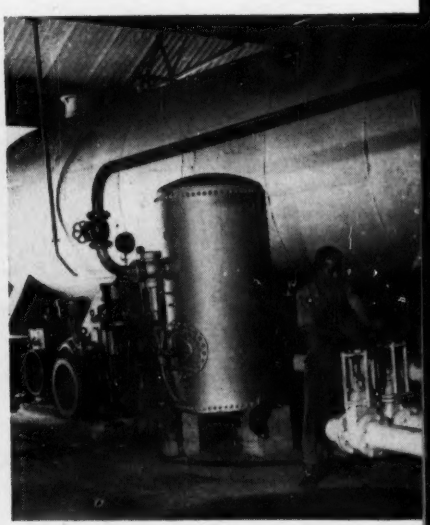
One of a series of ads prepared by
THE ASSOCIATED BUSINESS PUBLICATIONS



IN MALAYA, after the rubber-tapping collections are recorded . . .



COAGULATING CHEMICALS are added.



THE LATEX CONCENTRATE is stored

Natural Girds for the Fight

Charges and countercharges in the fight of natural versus synthetic rubber fill the air these days. Although the battle is raging in the economic field, slow but solid gains are being made in natural-rubber research and production methods. These will eventually have an economic effect.

Oblivious of the current price controversy between the natural and synthetic forces, however, natives of Malaya continue their patient round of latex gathering and processing. There has been little progress in this area (*see cut, left*). In British Malaya, 250,000 small holder native planters, living chiefly from the sale of crude rubber, pursue their tappings regardless of price levels—for latex untapped is irretrievably lost.

But there are stirrings elsewhere in the process. A case in point is the coagulating of the latex. For a long time this step has undergone little change. But a recent development, cyclized rubber formed directly from latex, is raising some enthusiasm in rubber circles. One promising material: a cyclized and natural rubber combination, inexpensively co-precipitated and vulcanized to a leather-like product. Market target: shoe soles.

There are also advances in the handling and shipping of the latex-concentrate. Storage tanks and pumps at Singapore Harbour (below) have witnessed an increasing use of a fungicide, sodium pentachlorophenate, to prevent mold growth, maintain desirable small particle size, cut down ammonia (and its odor).

A goal of much recent research in this country is polymerization of synthetics in the presence of natural latex. Researchers hope in this way to obtain a range of materials that might be comparable with leather, at the same time retaining desirable rubber qualities.

In the clothing field, for instance, stepped-up attention is being given rubber coated fabrics that permit passage of water vapor. Basic idea: Greater comfort while wearing rubber garments. Both military and civilian markets are reported ready to expand prodigiously as soon as final manufacturing techniques are settled.

Another advance: Growing adoption of Technically Classified (T.C.) natural rubber is now proceeding apace. Convinced of the greater acceptability of output identified by vulcanization types, Malayan rubber estates are flocking to the Rubber Research Institute to receive official classification and authority to use RRI grade marks.

As a further bid for consumer goodwill, a Malaya export inspection board is now beginning to operate. Objectives: (1) to produce higher grade rubber and (2) to make shippers perform as per agreements.

Meanwhile the scrap continues on the economic front. Recently a synthetic producer warned the natural rubber people not to price themselves out of the market. And as if in reply, last week the head of a natural rubber group countered by accusing the RFC of selling below cost the GR-S it makes from alcohol-butadiene.

Obviously sensitive now to synthetic prices, natural rubber has—within the last few days—been cut a third of its 25% price rise of the past few months.

and later . . .

PUMPED ABOARD a tanker bound for U. S.

Fatty Acid Esters

- STEARATES
- LAURATES
- OLEATES
- RICINOLEATES
- WETTING AGENTS
- THICKENERS
- PLASTICIZERS
- EMULSIFIERS

MADE TO MEET YOUR SPECIFICATIONS

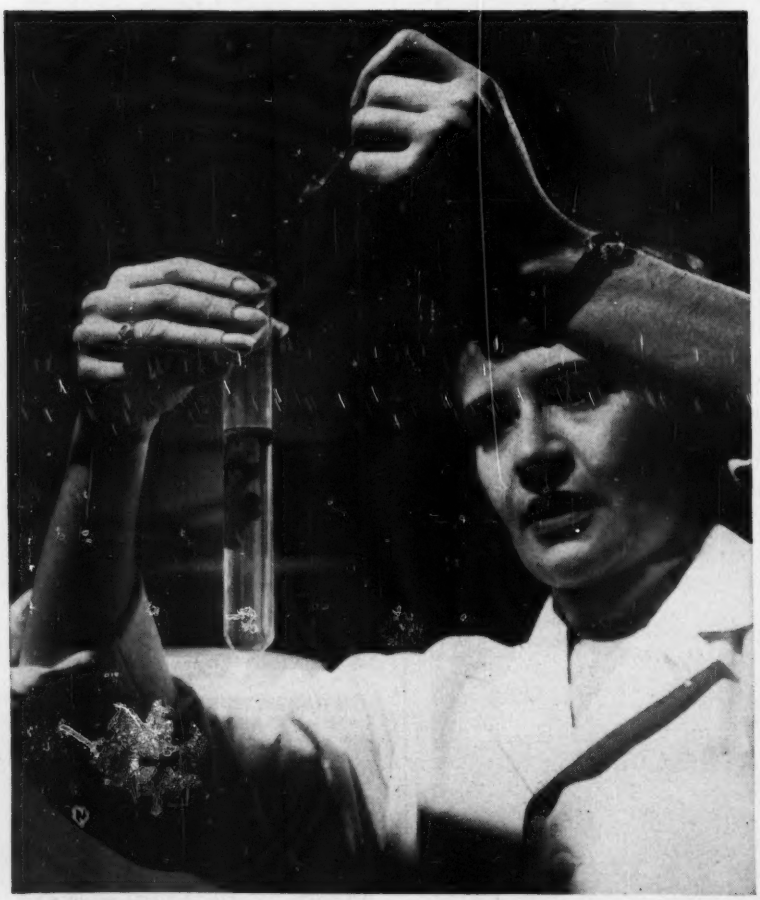
THE FLAME AND THE FLASK—SYMBOL OF QUALITY

The C. P. Hall Co.
CHEMICAL MANUFACTURERS
5147 W. 67th Street, Chicago 38, Illinois
AKRON, OHIO • NEWARK, N. J.
CHICAGO, ILL. • LOS ANGELES, CAL.

1 SILVER CLEANERS are reviewed by officers of York Research. Objective: a Reader's Digest Report to consumers.

2 TEST PROGRAM for the polishes is discussed by Warren Hyer and Holcomb York, with their lab chief, Ed Kenney.

SPECIALTIES . . . . . .



3 PRUSSIAN BLUE test for cyanides is performed by Bea Tabachnick. Some cleaners on the market still contain these toxic chemicals—but not those for RD's list.

Taking a Shine

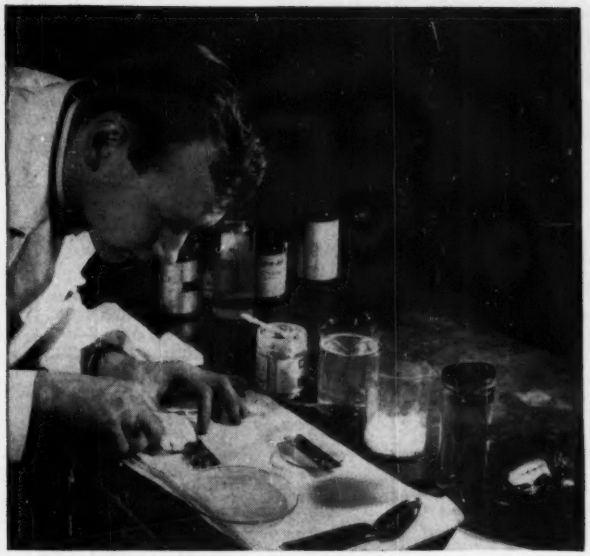
In the news this week—with a healthy boost from one of the influential national magazines (*Reader's Digest*)—are a number of liquid silver cleaners. They've been tested by York Research Corp. (Stamford, Conn.) for the American Hotel Assn. and for an article in the January issue of the *Reader's Digest*, a fact that will carry a lot of weight with the housekeeper.

CW's camera this week tours the labs of York Research to see the test program followed in examining the cleaners.

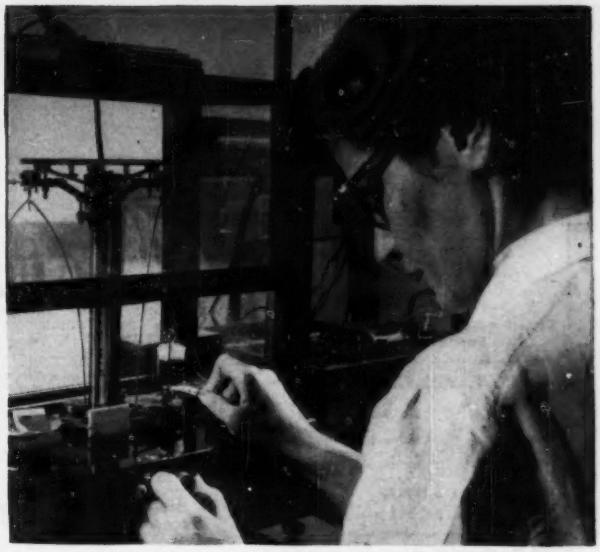
Backing of either the *Digest* or the Hotel Association is almost invariably a big break for the chosen company. Both stand in high regard consumer-wise; a send-off from the *Digest* in particular is almost sure to mean a huge and immediate boost in business.

Just what requirements did a silver cleaner need to be approved in this case? The twelve* that have already made the grade (and more will soon get the York okay) established themselves as being efficient, non-hazardous, and "easy" on the silver. All

* Beam Instant Silver Cleaner (Beam Products, Inc., L.I. City, N.Y.); Cosmo Dip It (Cosmo Mfg. Co., New York); Instant Dip (Macy's, New York); Dip Brite (Doehla Co., Nashua, N.H.); Dip-Off (Farbach Chemical Co., Cincinnati); Easy Aid (G. N. Coughlan Co., W. Orange, N.J.); Instant Dip (Lewal Industries, New York); Miracle Silver Cleaner (William Adams, Inc., New York); Quik-Dip (Druggists Dist. Service, New York); Oz (Homix Enterprises, N.Y.); Silva Brite (Pyramid Products Co., New York); Starlon Silver Gleam (Starlon Industries, Inc., Newton Centre, Mass.).



4 PASTE CLEANERS, often made with silver-eroding abrasives, are tried by Barney Zmoda, along with dip type.



5 SILVER LOSS is determined by weighing the sterling silver strips before and after polishing. Dip types remove minimum.

. . . to Silver

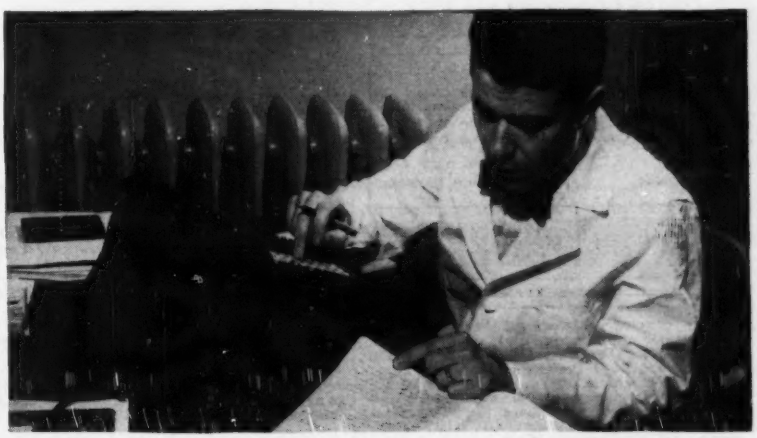
these factors were subject to tests at Stamford.

Trailing the Trials: One reason that prompted the present *Reader's Digest* article on silver cleaners is the fact that some time ago the magazine ran a report that was generally unfavorable to the dip type; new developments since that time have changed the picture.

At editor De Witt Wallace's behest, president Holcomb York of the research corporation and vice president Warren C. Hyer checked over all the dip-type cleaners available and compared them to a representative paste polish. The general test procedure was the result of conferences between the two and lab head Ed Kenney.

One drawback in commonly used dip-type silver cleaners has been the use of cyanide in their manufacture. There's an obvious danger in permitting such products to be used freely around the home. The first test has to be to determine whether cyanides are present—if they are, the products don't get the York approval.

The chemists discovered that in the liquid products currently finding favor as silver cleaners, thiourea is one of the principal ingredients. Though it's hardly classified as a body builder, there is considerable opinion that it isn't particularly toxic in most cases. It has been used for treatment of hyperthyroidism—it slows down me-



6 ED KENNEY takes the weight loss of silver, and calculates the amount of hydrogen sulfide that will be produced by the action of the instant cleaners.

7 ASSEMBLED DATA from the tests are tabulated by Kenney, and the results are checked with York. A raft of these cleaners have been marketed in recent months.

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Using a solution of sodium sulfide to provide rapid tarnishing, tests were made to see if the liquids actually shine the silver. Concurrently, the amount of silver that's lost in the process of cleaning is determined, and these results are compared with those obtained from polishing silver with ordinary paste cleaners.

In the action of thiourea on tarnished silver, hydrogen sulfide, a toxic gas, is evolved. It's also a most unpleasant smelling gas, and just how much of it is produced is of concern to the hotel man and the housewife. But that's easily determined by finding the loss of silver and converting by a simple calculation.

Most of the new liquids are passing these tests easily. They are fast-working, remove a minimum of silver, and present little hazard. These factors—and the convenience with which they can be used—combine with the *Digest's* recognition to give them a vigorous sales send-off.

Conditioner Confab

The date, place, and time are not set yet, but the Federal Trade Commission definitely plans to hold a trade practices conference on the chemical soil conditioner industry. The FTC will survey all scientific data on the conditioners, and check proposals for rules to eliminate and prevent unfair competition. Object: ethical standards for protection of both industry and the public.

The rapid growth of the soil conditioner industry has demanded the FTC's attention. More than 50 products are on the market, and the FTC estimates gross sales in '53 will total $15 million.

•

Soil Stabilizer: They're still coming in—Union Chimique Belge has just produced a new product, Aglusol, for improving soils. The new material is designed as an anti-erosion product, to increase the topsoil-holding properties. It's still expensive, but increased production is expected to lower price.

•

Insecticides and Flavor: Among the subjects discussed at the American Assn. of Eeconomic Entomologists meeting in Philadelphia last week was the effect of insecticides on fruit flavor. A panel of tasters checks on how new bug killers affect (or don't affect) the taste of fruit. It's a rare case, in-

* As the Digest points out, "like all household chemicals, of course, [silver cleaners] should be kept out of reach of children."

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vestigations have shown, when the chemical produces an off flavor.

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Vinyl Upholstery: U.S. Rubber has started production on a new 25 gage vinyl upholstery with elastic fabric backing. Claimed to be an improvement over unsupported vinyl upholstery and competitive in price, the new line will be produced in two different patterns as well as in nine different colors.

•

Petrol Promise: The British Esso refinery has promised the return of premium grade tractor fuel by February 1, 1953. A modern catalytic process will be used in the plant, which has delegated over 80% of its capital cost to British manufacturers of refinery equipment.

•

Company Headlines: The Du Pont Co. of Mexico has purchased a paint and varnish plant in Tlanepantla which will be equipped with U.S. machinery. Using the same chemical control system employed in the U.S., the plant will produce Du Pont's complete line of paints and varnishes.

Hood Chemical Co.'s new plant in Charlotte, N.C., is nearing completion. Three lines of household products will be featured, including a liquid bleach, a liquid starch, and an all-purpose cleaner.

A charter of incorporation has been filed by Klean Chemicals Co., Dover, Del. Capital of the firm is listed at $25,000.

•

Fermex Ferment: A new product called Fermex is claimed by its producer, Fermex Co., to eliminate clogging in septic tanks by reproducing itself via a fermentation process. One application is said to provide year-round clog-free septic tank operation.

•

Sugar Spray: Fertilizer application by air to sugar cane in Hawaii has proved that small amounts can be used as a supplement to insure balanced nutrition. Three years of testing has shown that there have been some gains from the aerial applications, although large quantities are best applied in the dry form.

•

No Trade Restraint: Lever Bros. Co. has not violated anti-trust laws, according to Jervis Babb, president. Anti-trust lawyers, he says, instigated the suit against Lever; a Federal Grand Jury failed to find any law violations. Mr. Babb opines "I am confident that the courts will decide that there has been no violation of the anti-trust laws." (*CW, Dec. 20.*)

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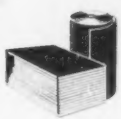

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